



ORDNANCE OFFICER'S



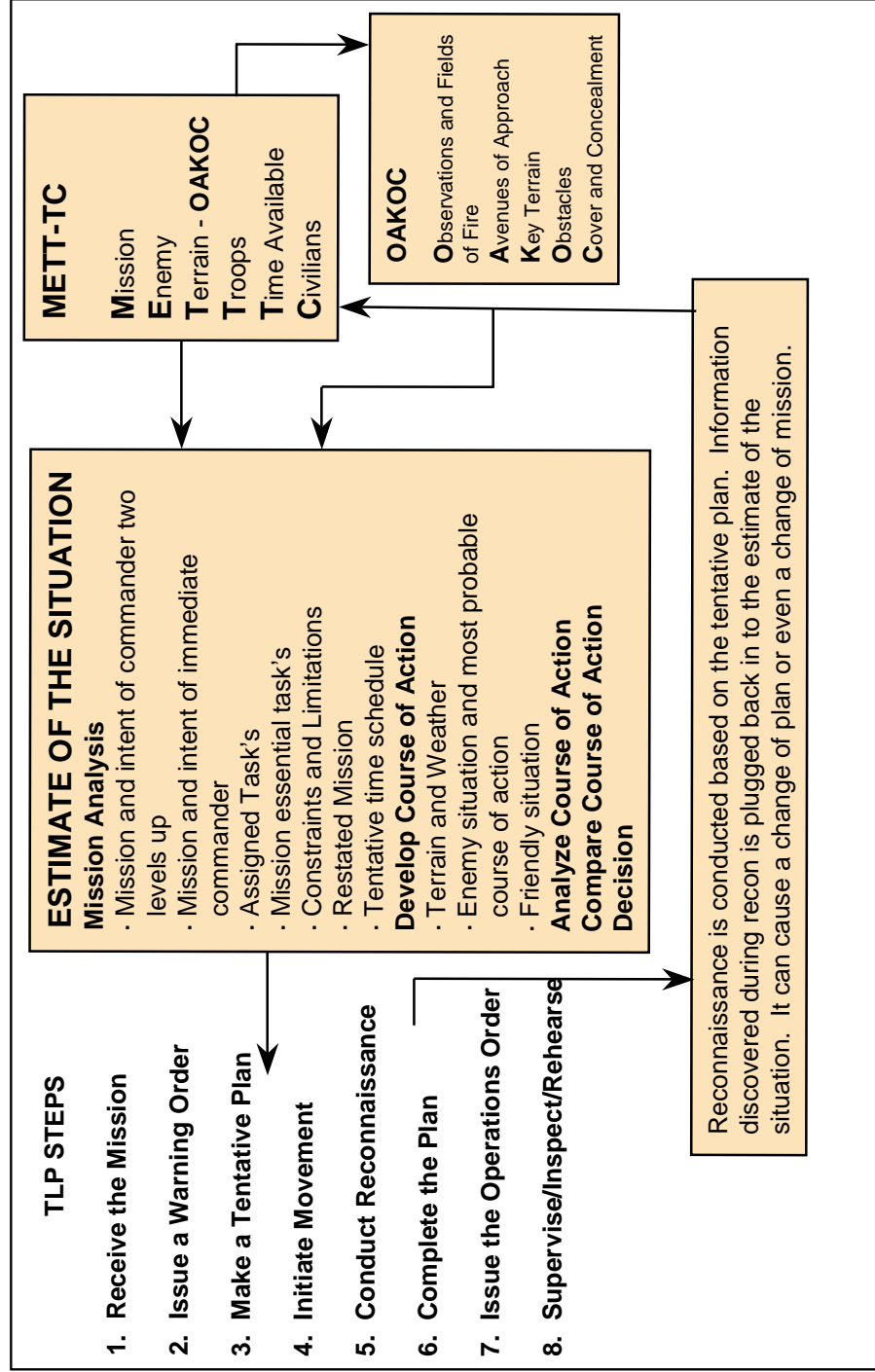
SMART BOOK



TACTICS & ADMIN



SECTION



MDMP	COMPONENT STEPS	PRODUCTS
Receive the Mission (Step 1)	None	None
Mission Analysis (Step 2)	<ol style="list-style-type: none"> 1. Analyze higher order (clarify, teach, learn) 2. IPB <ul style="list-style-type: none"> • Define the battlefield (AO) • Describe the battlefield effects (OACOK) • Evaluate the threat (Doctrinal template) • Develop threat COAs (Situational template) 3. Specified, implied & essential tasks 4. Review available assets (attach, detach, cmd/spt, capabilities) 5. Determine constraints (authority, zones/belts, reserve tgts) 6. Identify critical facts & assumptions (valid & necessary) 	<ol style="list-style-type: none"> 1. Threat situation template 2. Event template 3. MCOO 4. Restated mission 5. CDR's intent (purpose, key tasks, end state-terrain/friendly/enemy) 6. CDR's guidance <ul style="list-style-type: none"> • Friendly/enemy COAs • CCIR • Recon guidance • Deception • CS/CSS priorities • Risk • Time line • Type order/rehearsal

MDMP	COMPONENT STEPS	PRODUCTS
Mission Analysis (Step 2)	<ol style="list-style-type: none"> 7. Conduct risk assessment <ul style="list-style-type: none"> Tactical-enemy action/lost opportunity Accidental-tng status/equip readiness 8. Determine initial CCIR (PIR, EEFI, FFIR) 9. Prepare initial recon plan (know it, be part of it, use it) 10. Plan use of available time (briefing & rehearsals) 11. Develop the restated mission 12. Mission analysis briefing 13. Restated mission approval 14. CDR's initial intent 15. CDR issues guidance 16. Issue warning order 17. Review facts and assumptions 	<ol style="list-style-type: none"> 7. Warning order <ul style="list-style-type: none"> • Mission, intent, CCIR • Timeline & priorities • Mvt, OPORD, Rehearsal • Overlay

MDMP	COMPONENT STEPS	PRODUCTS
COA Development (Step 3)	<ol style="list-style-type: none"> Analyze relative combat power <ul style="list-style-type: none"> Tangible <ul style="list-style-type: none"> personnel equipment weapons Intangible <ul style="list-style-type: none"> leadership disposition will to fight Generate options <ul style="list-style-type: none"> Suitable - it defeats enemy COA Feasible - we can do it with time, resources, and space Acceptable - worth the cost in manpower and equipment Distinguishable - one of following <ul style="list-style-type: none"> reserve task organization main effort scheme of maneuver Complete - mission statement 	<ol style="list-style-type: none"> COA statements & sketches <ul style="list-style-type: none"> Purpose Scheme of maneuver Decision point Task and purpose of ME Task and purpose of SE's Task and purpose of reserve Risk End state <p>All built into the battlefield framework</p> <ul style="list-style-type: none"> Deep/R&S/MBA/reserve/rear Responsibilities/graphics <ol style="list-style-type: none"> Sit temps of Engineer COA at decisive point

MDMP	COMPONENT STEPS	PRODUCTS
COA Development (Step 3)	<ol style="list-style-type: none"> Develop scheme of maneuver <ul style="list-style-type: none"> Purpose Critical events - decision point Task and purpose of ME directly related to mission Task and purpose of SE's directly related to main effort Risk Task and purpose of reserve BOS integration & priorities Deep/close/rear ops Responsibilities/graphics Assign headquarters Prepare COA statement & sketch 	
COA Analysis (Step 4)	<ol style="list-style-type: none"> Gather tools List friendly forces Assumptions Critical events & decisive points 	<ol style="list-style-type: none"> Redefined/detailed COA & synch matrix Location & timing of combat power at decisive point

MDMP	COMPONENT STEPS	PRODUCTS
COA Analysis (continued) "WARGAME"	5. Evaluation criteria and weight (Mnvr, Fires, ADA, C2, CSS, M/S) 6. Select wargame technique <ul style="list-style-type: none"> • Avenue in depth • Belt(preferred method) • Box (least time required) 7. Select method to record <ul style="list-style-type: none"> • Sketch note • Synchronization matrix 8. Wargame and assess results	3. Detailed combat, CS, CSS task org. 4. Redefined event temp 5. CCIR and collection plan (NAI, TAI) 6. Concept for fires, engineer operations, etc. 7. Subordinate tasks 8. Deception 9. Risk
COA Comparison (Step 5)	1. Develop matrix using evaluation criteria 2. Weigh criteria 3. Evaluate strengths and weaknesses of each COA 4. Consider estimates from entire staff	1. Complete staff estimates
COA Approval (Step 6)	None	1. Approved/refined COA 2. CDR's guidance 3. Warning order
Produce orders (Step 7)	None	1. OPORD

WARNING ORDER NO.

1. SITUATION

Brief description:

2. MISSION

Use the restated mission from the mission analysis:

3. GENERAL INSTRUCTIONS

- | |
|--|
| a. Chain of Command (call out by name) |
| b. Special teams or task organization within platoon or squad. (Try not to violate unit integrity.) |
| c. Uniform and equipment common to all (changes from SOP: e.g., drop rucks, drop or pick up helmets) |
| d. Special weapons, ammunition, or equipment (different from SOP); e.g., mines, satchel charges, grapnel hooks, NVG's. |
| e. Tentative time schedule. This is formed on the basis of mission analysis. It includes at least: <ol style="list-style-type: none"> (1) Earliest time to move. (2) Time and place of OPORD and who will attend. (3) Probable execution time. (4) Inspection times (SOP). |

(5) Rehearsal time and actions to be rehearsed; e.g., actions on the objective, special teams for bridge, searches, EPW's, or other actions as time allows.

- f. Additional general instructions as needed or by SOP.

4. SPECIAL INSTRUCTIONS

- | |
|--|
| a. To subordinate leaders: |
| (1) Platoon sergeant. |
| (2) Squad leader. |
| (3) RATELO. |
| (4) Medic. |
| (5) Forward Observer. |
| (6) Attachments. |
| b. To persons helping in preparation of OPORD (SOP). |
| c. As needed or by SOP. |

OPERATIONS ORDER NO.

REFERENCES: List any maps or documents needed to understand the order or that were used in the preparation of the order.

TIME ZONE USED THROUGHOUT THE ORDER:

TASK ORGANIZATION:

1. SITUATION

- a. Enemy Forces
 - (1) Situation (enemy, weather, and terrain)
 - (2) Capabilities
 - (3) Probable course of action
- b. Friendly Forces
 - (1) Mission of your parent unit
 - (2) Mission of unit providing your support
 - (3) Mission and/or route of adjacent units that may affect your operation
- c. Attachments and detachments

2. MISSION

Who, what, when, where (coordinates), and why

3. EXECUTION

- a. Commanders intent. How commander views the upcoming operations.
 - b. Concept of operation. The overall plan (scheme of maneuver) for the unit and plan for fire support (refer to annex).
- c. Subunit missions. For sections, teams, and individuals.
 - d. Coordinating instructions.
 - (1) Time schedule
 - (2) Formations and order of movement
 - (3) Route (primary and alternate)
 - (4) Movement within friendly front lines
 - (5) Rally points and actions at rally points
 - (6) Actions on enemy contact, at danger areas, and at the objective
 - (7) Nuclear, biological, chemical (NBC) safety instructions and mission-oriented protection posture (MOPP) level.
 - (8) Priority intelligence requirements (PIR)

(9) Fire Support (if not already discussed)

(10) Rehearsal and inspections

(11) Debriefing (includes essential elements of information (EEI), other intelligence requirements

(OIR), time, and place.

(12) Coordination with other units (forward, friendly, aviation)

(13) Annexes (other actions may be covered separately)

4. SERVICE SUPPORT

- a. Supply
 - (1) Rations, Uniforms
 - (2) Arms and ammunition
 - (3) Captured material
- b. Transportation, resupply, cache points, maintenance
- c. Medical evacuation
- d. Personnel
- e. Prisoners of war

5. COMMAND AND SIGNAL

- a. Command
 - (1) Commander/leader location, CP location
 - (2) Chain of command
- b. Signal
 - (1) Frequencies and call signs
 - (2) Pyrotechnics and signals (including hand/arm/signals)
 - (3) Challenges and Passwords, number counts
 - (4) Code words
 - (5) Near/Far recognition signals

NOTE:

- 1. The OPOD heading items may be omitted depending on the situation
- 2. Details under subparagraphs should be tailored to provide all relevant and essential information.
- 3. Items covered by standing operating procedures (SOP's) need not be covered in the OPOD.

RISK ASSESSMENT MATRIX		HAZARD PROBABILITY						RISK LEVELS <i>Extremely High</i> - Loss of ability to accomplish mission. <i>High</i> - Significantly degrades mission capability. <i>Medium</i> - Degrades mission capability. <i>Low</i> - Little or no impact on mission capability.		
		SEVERITY	CATASTROPHIC	I	FREQUENT	LIKELY	OCCASIONAL		SELDOM	UNLIKELY
					A	B	C		D	E
CRITICAL	II	Extremely High	High	High	High	Medium				
MODERATE	III	High	Medium	Medium	Low	Low				
NEGLIGIBLE	IV	Medium	Low	Low	Low	Low				
		APPROVING AUTHORITY <i>Extremely High</i> = CG <i>High</i> = Bde Commander <i>Medium</i> = Bn Commander <i>Low</i> = Co Commander						EXAMPLES I/A = Extremely High II/B = High III/C = Medium IV/D = Low		

SEVERITY

- I. *CATASTROPHIC* - Death or permanent disability, system loss, major property damage.
- II. *CRITICAL* - Permanent partial disability, temporary total disability, major system damage, major property damage.
- III. *MODERATE* - Minor injury, lost workdays, compensable injury/illness, minor system damage, minor property damage.
- IV. *NEGLIGIBLE* - First aid or minor supportive medical treatment, minor system impairment.

PROBABILITY

- A. *FREQUENT* - Occurs often, resources continuously exposed.
- B. *LIKELY* - Occurs frequently, resources are exposed frequently and/or several times.
- C. *OCCASIONAL* - Occurs sometimes, resources are exposed sporadically.
- D. *SELDOM* - Remote occurrence, resources are possibly exposed.
- E. *UNLIKELY* - Rare occurrence of exposure.

ACTUAL THERMOMETER READING (F)												
EQUIVALENT TEMPERATURE (F)												
50	40	30	20	10	0	-10	-20	-30	-40	-50	-60	
CALM	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-60
10	40	28	16	4	-9	-21	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-32	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-124
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-51	-67	-82	-98	-113	-129	-145
40	26	10	-6	-22	-37	-53	-69	-85	-100	-116	-132	-148
*+40												
* Winds greater than 40 MPH have little additional effect.												
<5 hrs with dry skin												
Exposed flesh may freeze within 1 min.												
Exposed flesh may freeze within 30 sec.												

FIELD UNIFORM	PT UNIFORM	OFF DUTY ACTIVITIES	OTHER FACTORS
Poly Pro (T&B), ECWS (T&B)**, Balacava, Trigger Finger Mittens, Gore-Tex Boots*	PFU, Sweats, Black Knit Cap, Black Gloves w/inserts	Coat, Hat, Ear Protection, Gloves, Boots	Increase leader surveillance, No facial camouflage, Increase hydration, Provide warm-up areas with hot drinks, etc. Skin covered and dry.
Poly Pro (T&B), Coat & Trouser Liners, ECWS (T&B)**, Balacava/Pile Cap, ECWS Mittens, Boots ECW (Type I)	PFU, Sweats, Poly Pro (T&B), Balacava, Trigger Finger Mittens	Coat, Hat, Ear Protection, Gloves, Boots	Restrict non-essential outdoor training, Low activity: 30-40 min work cycle, Sedentary Activity: 15-20 min work cycle, Use buddy system, No exposed skin.
Poly Pro (T&B), Coat & Trouser Liners, ECWS (T&B)**, Balacava/Pile Cap, ECWS Mittens, Boots ECW (Type II)	PFU, Sweats, Poly Pro (T&B), Balacava, Trigger Finger Mittens	Heavy Coat, Long Underwear, Hat, Scarf, Mittens, Cold Weather Boots	Consider indoor training, High intensity activity <15 min work cycle, Consider canceling low or sedentary activity outdoor training, cover all exposed skin.

MEDEVAC Request

_____ (HIGHER), this is _____
MEDEVAC request, over.

- Location: _____ over. (8 digit grid)
- Radio Frequency, call sign, suffix of the radio at the pick up site (from the SOT) _____ over.

(Location and radio frequency must be encrypted)

- Precedence:

Urgent(A) _____ ASAP no more than 2 hrs.

Priority(C) _____ no more than 4 hrs.

Routine(D) _____ within the next 24 hrs.

- Special Equipment (A-None, B-Hoist, C-Extraction equip, D-Ventilator) _____ over.

- Number of patients by type: Litter(L#) _____
Ambulatory(A#) _____

- Security of the pick-up site (enemy situation) _____ over.

N-No enemy, P-Possible enemy (caution), E-Enemy troops in area (caution),
X- Enemy troops in area (Armed escort)

- Method of marking pick-up site _____ over.

(A-Panels, B- Pyro, C- Smoke, D- None, E-Other)

- Patient nationality and status (US/military or civilian, Non-US military or civilian EPW) _____ over.

A- US Military, B-US Civilian, C-Non-US Military, D- Non-US Civilian, E-
EPW

- NBC Contamination _____ over.

(N-Nuclear, B-Biological, C-Chemical)

*Remember to put the number of individuals first then the brevity code, 3 persons as precedence Urgent would be written 31. If more than one precedence or patient type is given, say break in between. The brevity codes are located after each line. The first line is a demand call to request the MEDEVAC

CALL FOR FIRE

A. **GENERAL:** This card provides for a general format for a call for fire from an artillery unit or higher headquarters.

B. OVERVIEW

1. Standards for general grid missions.
2. Format for a grid call for fire

C. FORMAT:

This is $\text{adjust_fire}(k)$

Response from unit

Target Location is/ Grid (six digit grid Yk)

Response from unit

(Target description) (k)

Response from unit

(direction from you to the target) (k)

Response from unit

Say Back Message to Observer

From unit- Shot Over

Your response Shot out

From unit - Splash over (5 second delay before round impacts)

Your response- Splash out

Locate impact of the rounds and give corrections.

After Fire for Effect has been called, You need to call in End of Mission and give a spot report on the Battle Damage Assessment.

RANGE CARD PREPARATION

STANDARD RANGE CARD
For use of Artillery and Air Force weapons.

May be used for all types of direct fire weapons.

MILITARY DISTRICT

POSITION IDENTIFICATION

WEAPON M2 C-21

DATE 3 MAR 83 / 1140 HRS

LIGHT CIRCLE EQUALS METERS 400

NO.	DIRECTION/ DEFLECTION	ELEVATION	RANGE	AMMO	DESCRIPTION
L	350° / 530M	0M	2000M	TOW 2	FALLING POINT
R	105° / 900M	+10M	3600M	TOW 2	R/SIDE BLOODLINE
J	64° / 640M	+30M	2400M	TOW 2	RR - HILLTOP
2	59° / 590M	+10M	2700M	TOW 2	TRP - ABCO2 RT
3	80°	-10M	1800M	TOW 2	TRP - ABCO3 RT

REMARKS:

4 WRP - RT AT 1.4 136 29411, 100° AT 32.0M

A FORM 8-75 (REV 10-60)

RANGE CARD PREPARATION

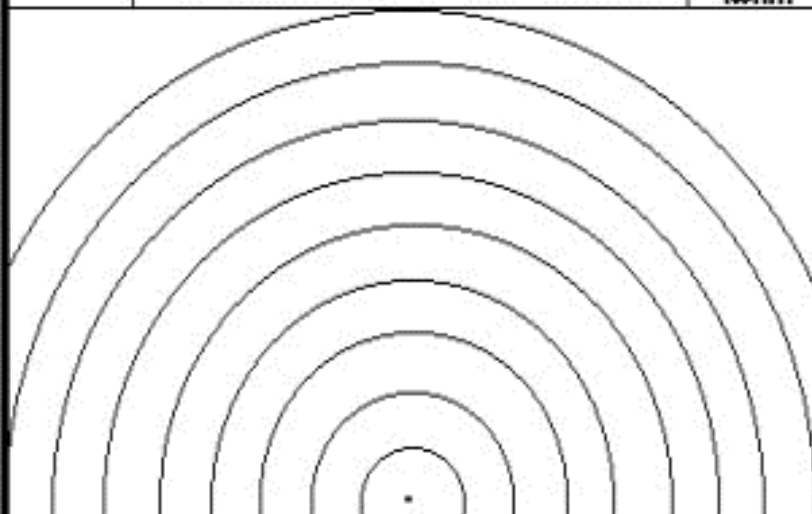
SQD _____

PLT _____

CO _____

May be used for all types of direct fire weapons

MAGNETIC
NORTH



DATA SECTION

POSITION IDENTIFICATION

DATE

WEAPON

EACH CIRCLE EQUALS
METERS

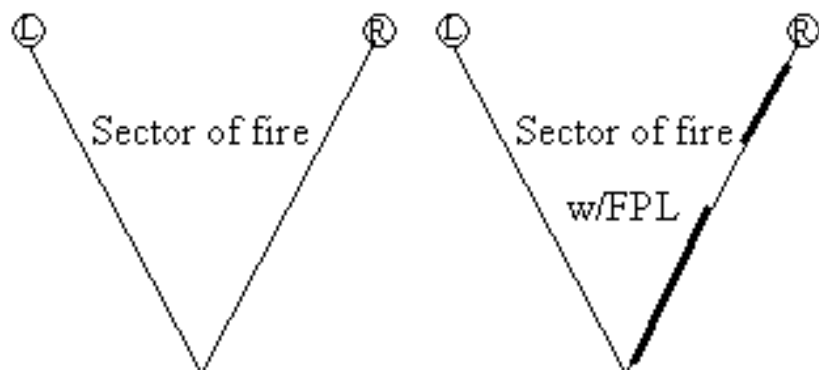
NO.	DIRECTION/ DEFLECTION	ELEVATION	RANGE	AMMO	DESCRIPTION

REMARKS:

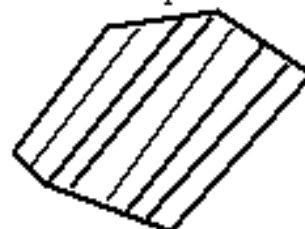
DA FORM 5517 R

SYMBOLOLOGY FOR RANGE CARDS AND SECTOR SKETCHES

Unspecified wire obstacle
XXXXXXXXXXXXXXXXXXXX



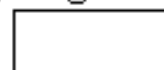
Dead space/woods



Hill



Fighting Position



Bridge



The map shows a study area with a north arrow pointing towards the top left. A scale bar at the bottom indicates distances of 185, 190, 210, 245, 25, 10, and 30. The map features a network of roads and trails, including 'KINDEEP CREEK' and 'TANK TRAIL'. A thick black line runs diagonally across the map, labeled 'P.E.E.'. Several rectangular boxes are placed along this line, with labels 'N16', 'M16', 'M149', and 'M103'. A legend at the bottom right identifies these boxes as 'VP 1234567890' and 'CP'. A small rectangular box with three dots is located near the center of the map, labeled 'TANK TRAIL'.

Small Arms Weapon Ranges

WEAPONS (FM 7-8):

TYPE	MAX EFF RANGE (m)
M16A2.....	580 (pt) 800 (area) 200 (mov)
M203.....	150 (pt) 350 (area)
M249.....	600 (pt) 800 (area)
M136 (AT4).....	300
M47 (Dragon).....	1,000 (sta) 100 (mov)
MK19.....	1,500 (pt) 2,212 (area)
M60 MG.....	1,100 (600 grazing)
.50 Caliber MG.....	1,800 (1,000 grazing)
TOW.....	3,000 (plng purposes)
TOW 2.....	3,750
105-mm.....	11,500
105-mm Tank.....	*2 to 2.5 km
120-mm Tank.....	*2 to 2.5 km
25-mm BFV.....	2,200
155-mm M109A3.....	18,100
8-in Howitzer.....	22,900

* *Optimum engagement ranges*

ENEMY/THREAT

TYPE WEAPON	RANGE (meters)
AK-74	500
BG-15	400
RPK-74	800
SVD	1300
PKM	1000
DShK	2000 ground / 1000 air
AGS-17	1700 Indirect fire / 700 Direct fire
RPG-7	300 Moving / 500 Stationary
RPG-18	200
RPG-22	250

SOLDIER'S GUIDE TO COMBAT INTELLIGENCE

CHALLENGE AND PASSWORD

THE CHALLENGE AND PASSWORD IS USED TO IDENTIFY UNKNOWN PERSONNEL. THEY ARE CHANGED EVERY 24 HOURS AND SHOULD NOT BE USED OUTSIDE FRIENDLY AREAS.

Proper Procedure:

CHALLENGE

REPLY

HALT _____	(STRANGER HALTS)
WHO IS THERE? _____	'FRIENDLY PATROL'
ADVANCE (ONE)	
TO BE RECOGNIZED _____	(STRANGER ADVANCES)
HALT _____	(HALTS 2 OR 3 YARDS AWAY)
CHALLENGE - LOW	
CLEAR VOICE _____	PASSWORD
EXAMPLE: 'BOSTON' _____	EXAMPLE 'BEANS'
PASS _____	IDENTIFIED SOLDIER PASSES
	(He will identify each member of his patrol)

REMEMBER:

MEMORIZE CURRENT PASSWORDS AND COUNTER SIGNS.

HALT AND IDENTIFY PERSONNEL BEFORE THEY ARE CLOSE ENOUGH TO BE A THREAT.

KEEP THE INDIVIDUAL COVERED AND DO NOT EXPOSE YOURSELF.

SPEAK CLEARLY AND JUST LOUDLY ENOUGH TO BE HEARD.

DO NOT PERMIT PERSON TO PROCEED UNTIL PROPERLY IDENTIFIED.

SOLDIER'S GUIDE TO COMBAT INTELLIGENCE

COMMUNICATIONS SECURITY TIPS

COMSEC prevents the enemy from gaining useful information from communications. Everyone must practice COMSEC - MAKE IT A HABIT!

ALWAYS FOLLOW THESE RULES:

- USE WIRE INSTEAD OF RADIO IF POSSIBLE
- NEVER VIOLATE RADIO SILENCE
- MAKE TRANSMISSIONS BRIEF, NEVER MORE THAN ONE MINUTE OR LESS
- USE PROPER RADIO/TELEPHONE PROCEDURE
- USE MINIMUM POWER REQUIRED
- NEVER TRANSMIT CLASSIFIED INFORMATION IN THE CLEAR
- USE ONLY AUTHORIZED CODES
- USE AUTHENTICATION PROPERLY
- SITE TRANSMITTING ANTENNAS ON REVERSE SLOPE (AWAY FROM ENEMY)
- USE DUMMY ANTENNA TO TUNE OR TEST RADIO
- TRY TO WORK THROUGH JAMMING
- NEVER SAY ANYTHING OVER THE AIR ABOUT BEING JAMMED

SOLDIER'S GUIDE TO COMBAT INTELLIGENCE

CAMOUFLAGE

(MEASURES TAKEN TO CONCEAL SELF AND EQUIPMENT FROM ENEMY OBSERVATION)

SOME COMBAT TESTED METHODS OF INDIVIDUAL CAMOUFLAGE:

DISGUIISING THE HELMET - Use leaves or twigs to break up the shape. Wrap the helmet with burlap or smear it with mud.

CANVAS EQUIPMENT - Darken faded web equipment with paint, mud, or charcoal.

SKIN -The face, neck and hands should be toned down with camouflage face paint, mud or burnt cork.

WEAPONS TONEDOWN -Wrap with strips of burlap or dyed cloth. Cover shiny parts with cloth, paint or mud.

SHINY OBJECTS -Windshields, mess kits, and all bright objects reflect light and must be concealed.

CAMOUFLAGE DISCIPLINE - Make things look like they belong - not out of place. Conceal tracks; keep boxes, cans and other litter picked up. Check your camouflage from the enemy standpoint.

NOISE AND LIGHT DISCIPLINE

Noise, such as talking, can be picked up by enemy patrols or listening posts. At night time, a lighted match or cigarette can be seen for a great distance. Deny the enemy information.

NOISE DISCIPLINE -

Use hand and arm signals - Do not talk or whisper.
Tape all items that may rattle.
Start all vehicle-generator engines at the same time.
Move vehicles only when necessary.
Use telephones in place of radios.

LIGHT DISCIPLINE -

Use light filters on flashlights, or shield with poncho.
Use matches, lighters, and cigarettes only in light proof shelters.
Use vehicle blackout lights.
Turn off or adjust light to dimmest setting.
Light heating or cooking fires only in designated areas.

SOLDIER'S GUIDE TO COMBAT INTELLIGENCE

PATROL PLANNING STEPS

The Patrol Leader considers all steps and accomplishes those necessary. The order may vary.

- STUDY THE MISSION
- PLAN USE OF TIME
- STUDY TERRAIN AND SITUATION
- ORGANIZE THE PATROL
- SELECT MEN, WEAPONS, EQUIPMENT
- ISSUE WARNING ORDER
- COORDINATE
- MAKE RECONNAISSANCE
- COMPLETE DETAILED PLANS
- ISSUE ORDER
- SUPERVISE, INSPECT, REHEARSE
- EXECUTE THE MISSION

PATROL REPORT

Patrols are debriefed at area at the time of return to the friendly area. The report should include the following items:

- SIZE AND COMPOSITION OF PATROL
- TASK
- TIME OF DEPARTURE
- TIME OF RETURN
- ROUTES (OUT AND BACK)
- TERRAIN
- ENEMY
- MAP CORRECTIONS
- MISCELLANEOUS INFORMATION
- RESULTS OF ENEMY ENCOUNTERS
- CONDITION OF PATROL (DISPOSITION OF DEAD/WOUNDED.)
- CONCLUSIONS AND RECOMMENDATIONS

SOLDIER'S GUIDE TO COMBAT INTELLIGENCE

COVER AND CONCEALMENT

COVER - PROTECTION FROM ENEMY FIRE

Natural - Ravines, Trees, Rocks
Man-Made - Foxholes, Trenches, Walls

CONCEALMENT - PROTECTION FROM ENEMY OBSERVATION

Natural - Bushes, Grass, Shadows
Man-made - Burlap, Nets, Paint

Before the enemy can shoot you, he must know where you are. Concealment will help to keep him from spotting you. Cover will make it hard for him to hit you - with direct or indirect fire.

COVER AND CONCEALMENT GO TOGETHER

DO'S AND DON'TS:

- USE ALL COVER AND CONCEALMENT AVAILABLE
- MOVE ONLY WHEN NECESSARY--THEN CAREFULLY STAY LOW - PRONE IF POSSIBLE
- EXPOSE NOTHING THAT SHINES
- USE SHADOWS TO HELP YOU HIDE; BLEND WITH YOUR BACKGROUND
- DON'T SILHOUETTE YOURSELF AGAINST SKYLINES OR TOPS OF WALLS
- KEEP QUIET
- CHANGE OR DISGUISE THE SHAPE OF YOURSELF AND EQUIPMENT
- OBSERVE AND FIRE AROUND THE SIDE OF AN OBJECT
- AVOID OUTSTANDING LANDMARKS SUCH AS LONE TREES AND ROAD JUNCTIONS

SOLDIER’S GUIDE TO COMBAT INTELLIGENCE

OBSERVING AND REPORTING

THE COMBAT SOLDIER IS CLOSE TO THE ENEMY AND CAN OBSERVE HIM AND THE TERRAIN HE CONTROLS.

WHEN YOU OBSERVE LOOK FOR:

- WHO (did you see?)
- WHAT (was he doing?)
- WHEN (did you see it?)
- WHERE (did it happen?)

AND WHERE WERE YOU?

WHEN YOU REPORT, GIVE

- Size
 - Activity
 - Location
 - Unit
 - Time
 - Equipment
- Key Word
SALUTE






























HANDLING PRISONERS OF WAR

CAPTURED ENEMY EQUIPMENT/ DOCUMENTS

When you capture prisoners, remember the 5 S’s

- SEARCH - for weapons/documents immediately
- SEGREGATE - into groups: Officers, NCO’s, Privates, Deserters, Civilians, Females, Line Crossers
- SILENCE - Do not allow prisoners to talk to each other.
- SPEED - Prisoners to the rear with personal items and documents.
- SAFEGUARD - Prisoners, documents and materiel; Tag and evacuate to the rear.

PRISONERS AND/OR CAPTURED ENEMY DOCUMENTS AND EQUIPMENT SHOULD BE TAGGED. IF A CAPTURE TAG IS NOT AVAILABLE, ANY PIECE OF PAPER WILL DO. IT SHOULD INCLUDE DATE AND TIME CAPTURED, PLACE CAPTURED (COORDINATES), CAPTURING UNIT, AND CIRCUMSTANCES OF CAPTURE.

	Field Artillery		Infantry (LT = Light)		Mechanized APC		BIFV (Mounted)		BIFV (Dismounted)		Motorized		Maintenance		Mountain		Ordnance		Airborne		Air Assault		Air Cavalry		Amphibious		Engineer Amphibious		Antiaarmor		Armored
	Quartermaster		Signal		Supply		Topographic		Aviation		Transportation		Armored Cavalry		Air Defense		Bridging		Cavalry or Recon		Chemical (NBC)		Engineers		Medical						

Size of a unit

Higher echelons of command separated by a slash

Other identifying information such as type of weapon or vehicles organic to the unit, or other information contributing to its identity

Unit Designation

Branch/Duty (functional) symbol or abbreviation of unit

SYMBOLS

Unit	Logistical, medical or Administrative Unit	Brigade
Headquarters	CSS Element of theater	Division
	CSS Element of a U.S. corps	Corps
	CSS Element of a U.S. combat unit	Army
Squad/Crew	Company	X
Section	Battalion	XX
Platoon	Group or Regiment	XXX
		XXXX

AIR DEFENSE WARNINGS

RED - Attack by hostile aircraft or missiles is imminent or in progress. This means that hostile aircraft or missiles are within a respective area of operations or in the immediate vicinity of a respective area of operations with high probability of entry thereto.

YELLOW - Attack by hostile aircraft or missiles is probable. This means that hostile aircraft or missiles are en route towards a respective area of operations or unknown aircraft or missiles suspected to be hostile.











WHITE - Attack by hostile aircraft or missiles is improbable.

WEAPONS CONTROL STATUS

FREE - Fire at any aircraft not positively identified as friendly.

TIGHT - Fire only at aircraft identified as hostile according to the prevailing hostile criteria.

HOLD - Do not fire except in self defense or in response to a formal order.

CLASS		Subsistence items (MREs)
I		
II		Items of equipment (TA50, tools, clothing)
III		Petroleum, oils, and lubricants
IV		Construction & barrier materials (wood, wire)
V		Ammunition
VI		Personal demand items (PX items)
VII		Major end items (vehicles, weapons)
VIII		Medical materials
IX		Repair parts and components
X		Materials to support civil programs

UNMASKING PROCEDURES

With the M256A1 Kit (15 min)

1. After checking with M256A1, results are negative.
2. Check with M8 Detector Paper.
3. Senior person selects one or two soldiers.

Have them:

- * Move to a shady area. MOPP Level
 - * Unmask for five minutes.
 - * Clear and reseal masks.
4. Observe them for 10 minutes.
5. If no symptoms appear, give all clear.
6. Watch for delayed symptoms.
7. Have self-aid available.

Reference: FM 3-4/STP 21-24-SMCT

Without the M256A1 kit (35 min)

1. Check with M8 Detector Paper.
2. Senior person selects one or two people.
3. Move to a shady place.
4. Have soldiers:
 - * Take a deep breath, hold it, and breaks seal.
 - * Keep eyes open for 15 seconds.
 - * Clear and reseal mask.
5. Observe them for 10 minutes. If no symptoms-
 - * Break seal on mask and take 2 or 3 breaths.
 - * Reseal and clear their masks.
6. Observe them for 10 minutes.
7. If no symptoms, unmask for 5 minutes and remark.
8. If no symptoms after 10 minutes, give all clear.
9. Watch for delayed symptoms.
10. Have first-aid available.

NBC 1 (OBSERVER'S REPORT)

Precedence:

Flash(Initial), Immediate(Follow up)

Classification

Line Meaning

B Position of observer

C Direction of attack from observer

D Date-time start of attack

E Date-time end of attack

F Location of area attack

G Kind of attack

H Type of agent/persistency

I Number of munitions or aircraft

ZB Remarks

MOPP Gear Exchange (Buddy Team)

1. Decontaminate individual gear.
2. Decontaminate hood and roll it.
3. Remove overgarments.
4. Remove overboots and gloves.
5. Put on overgarments.
6. Put on overboots and gloves.
7. Secure hood.
8. Repeats steps 2 through 7 for buddy.
9. Secure individual gear.

Reference: FM 3-5.

Available: Within arm's reach

Ready: Must be available to the soldier within 2 hrs. Second set within 6 hrs.

Mask-only: For soldiers protection from direct skin exposure to liquid or solid.

Reference: FM 3-4.

MOPP Equipment

Mask

Over-garments

Overboots

Gloves

Helmet cover

Zero

Carried

Available

Available

Available

Available

1

Carried

Worn

Worn

Worn

Worn

2

Carried

Worn

Worn

Worn

Worn

3

Carried

Worn

Worn

Worn

Worn

4

Carried

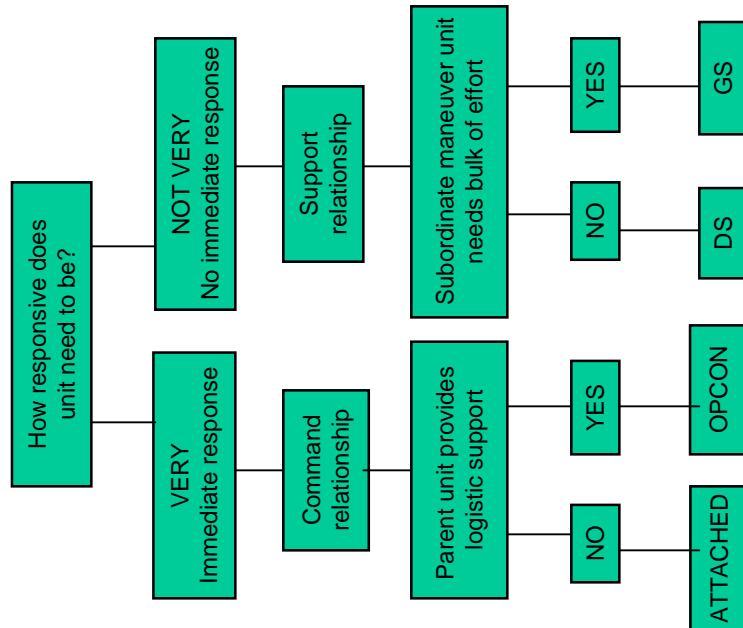
Worn

Worn

Worn

Worn

TO Determine Command or Support Relationships



Command and Support Relationships

	ATTACHED	OPCON	DS	GS
	<ul style="list-style-type: none"> Need command authority Parent unit cannot provide logistic support 	<ul style="list-style-type: none"> Need command authority Parent unit can provide logistic support 	<ul style="list-style-type: none"> High responsiveness Anticipate shifting engineers 	<ul style="list-style-type: none"> Centralized control required
Commanded BY	Supported Unit	Supported Unit	Parent Unit	Parent Unit
TASK ORG BY	Supported Unit	Supported Unit	Parent Unit	Parent Unit
TASKED BY	Supported Unit	Supported Unit	Supported Unit	Parent Unit
LOGISTICS FROM	Supported Unit	Parent Unit	Parent Unit	Parent Unit

QUESTIONS TO ASK OF YOUR SOLDIER WHILE INSPECTING/CHECKING THEM IN THE FIELD

FOR THE SOLDIER:

1. What is your mission?
2. What is the mission of your squad/platoon/company?
3. How do you build a fighting position?
4. Who is in the defensive position on your left/right?
5. What is your principle direction of fire/sector of fire?
6. Where is your right/left limit?
7. What is dead space?
8. Is there any dead space in your sector?
9. Have you walked your sector of fire to the max effective range of your weapons?
10. Have you walked the dead space?
11. What is the maximum effective range of the TOW? Javelin? M60? SAW? M203? M16?
12. Show me your range card/sector firing stakes?
13. Who is in your fire team/squad?
14. What is an FPF?
15. Do you have an FPF? What is the signal to fire it?
16. What is grazing fire?
17. If your buddy gets shot, what are the four life savings steps to help him?
18. Where is your protective mask? When do you put it on? When do you take it off?
19. What is atropine? When do you use it?
20. How do you protect yourself against a nuclear blast?
21. What is MOPP? What are the 4 levels?
22. What is the challenge and password for today?
23. Are there any OP's to your front? Who is manning it?
24. What are the signals to call in the LP/OP?
25. What is an alternate position? Show me yours.
26. What is a supplementary position? Show me yours.
27. What is the advantage of overhead cover? What is its standard thickness?
28. Where is your weapons cleaning equipment? Have you cleaned your weapon today?

**QUESTIONS TO ASK OF YOUR SOLDIER
WHILE INSPECTING/CHECKING THEM IN THE FIELD**

FOR THE SOLDIER:

29. Did you shave and brush your teeth this morning?
30. What is stand-to? Did you stand-to this morning?
31. What do you do if you capture a POW?
32. What is SALUTE?
33. What will you do if you see enemy in your sector? How will you notify your chain of command?
34. What are your three general orders?
35. Do you have your "dog tags" around your neck?
36. Do you have mines or claymores in your sector?
37. When do you fire your claymores?
38. Is there a high speed avenue of approach in your sector?
39. What is the current enemy situation?
40. Where is your squad leader, platoon leader, and company CP?
41. Where do you sleep? Where does your buddy sleep?
42. What are your priorities of work?
43. Who is in charge if your TL/SL/PL is killed?
44. Is there anything you need to improve your position?
46. Is there a location nearby from which you could better defend?
47. Are any friendly elements to your front?
48. Is there a passage lane in your sector?
49. How much ammunition do you have? How will you get more?
50. Do you have dry socks? Have you checked your feet today?
51. Where is your medic?
52. Do you have a first aid dressing?
53. Can you survive a near hit by artillery?
54. What is the signal to move to alternate/supplementary positions?
55. When do you render a hand salute?
56. What should you do if you find unsecured classified material?
57. Who is your buddy?

Platoon Leader Duties

1. Welfare of the soldiers.
2. Platoon Leadership.
3. Field operations, mission support, Class I, III, V, maintenance, transportation, and medical support.
4. Accountability of platoon equipment (platoon hand receipts.)
5. Maintenance (Vehicle, Commo, Weapons, NBC, SKO's, NVD's)
6. Training, Planning/Resourcing/Scheduling, and conduct monthly platoon training meetings, maintenance and update training calendars.
7. Execute - PSG/SQD leader duties as needed.
8. Counsel PSG, Squad Leaders, drivers and RTO after every field exercise and garrison monthly, in writing.
9. Conduct AAR's after each mission and field exercise and submit to unit commander.
10. Draw and account for all comsec material as needed.
11. Write and submit platoon awards as needed.
12. Act as unit commander as needed.
13. Support Single Soldier Programs.
14. Support Family Support Group.
15. Protect Family Time.

Platoon Sergeant Duties

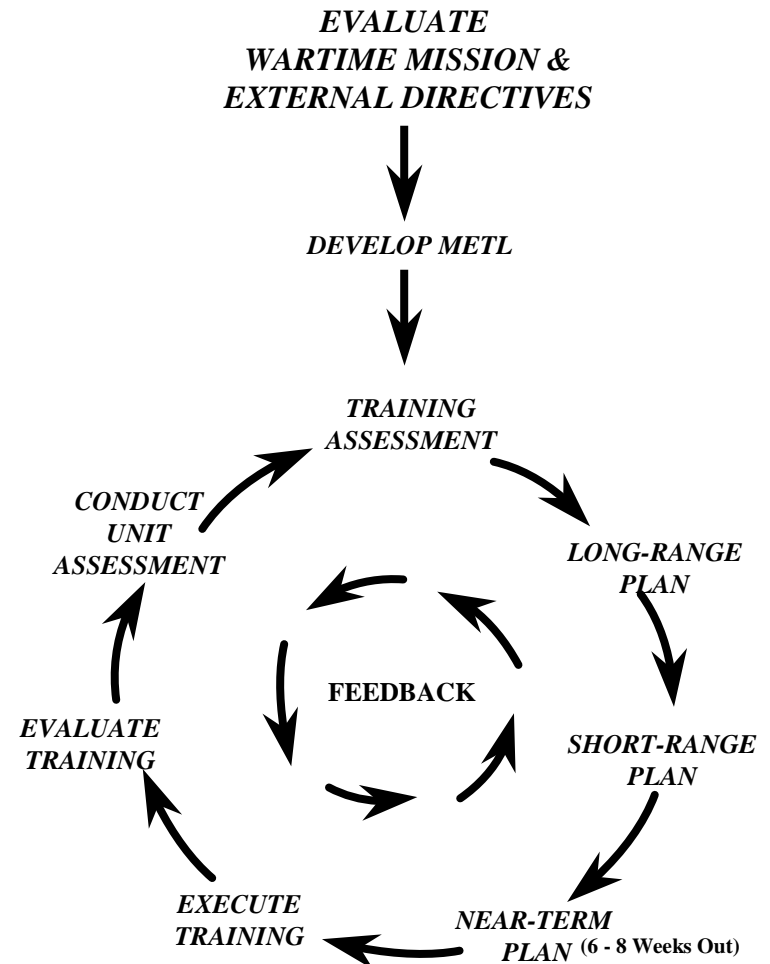
1. Welfare of the soldiers.
2. Platoon leadership.
3. Personnel accountability
4. Field operations, mission support, Class I, III, V, maintenance, transportation, and medical support.
5. Platoon's senior trainer, assist and evaluate squad training.
6. Platoon's physical fitness program.
7. Maintenance supervisor (PMCS)
8. Formations, inspection of soldiers, appearance.
9. Common areas, cleanliness and appearance.
10. Garrison operations, detail support.
11. Administration of platoon paperwork.
12. Counseling packets-Monthly.
13. Weapons qualification.
14. Additional duties.
15. Promotions
16. Maintain Platoon Battle Roster.
17. Support Single Soldier programs.
18. Support Family Support Group
19. Protect Family Time.

Sources of Information

Leadership	FM 22-100
Counseling	FM 22-101
NCO Creed	FM 22-600-20
Drill and Ceremonies	FM 22-5
Individual Weapons	FM 23-9, FM 23-31, FM 23-6
Map Reading/Land Nav	FM 21-26
Guard Duty	FM 22-6
First Aid	FM 21-11
Physical Training	FM 21-20
NBC	FM 3-87
Training the Force	FM 25-100
Battle Focus Training	FM 25-101
Legal Guide for Commanders	FM 27-1
UCMJ	AR 27-10
Customs and Courtesies	AR 600-25
Code of Conduct	AR 350-30
Equal Opportunity	AR 600-20
NCO Professional Development	AR 350-17
Individual Military Education	AR 351-1
Correspondence Course Program	AR 351-20
PT & Weight Control	AR 600-9
Command Policy & Procedures	AR 600-20
Unfavorable Information	AR 600-37
Standards of Conduct	AR 600-50
Selection of Enlisted Soldiers For Training and Assignment	AR 614-200
Army Continuing Education	AR 621-5
Enlisted Evaluation Reports	AR 623-205
Individual Military Personnel System	AR 640-10
Photographs for Military Personnel Files	AR 640-30
Wear & Appearance of Uniform & Insignia	AR 670-1
Military Awards	AR 672-5-1
Military Personnel Organization & Type of Transaction Codes	AR 680-29
Enlisted Personnel Management System	AR 600-200
Career Management of the Enlisted Force	DA Cir 611-82-3
NCO Evaluation Report System	DA Cir 623-88-1
NCOER System "IN-BRIEF"	DA Cir 623-205
Military Personnel Management & Administrative Procedures	DA Pam 600-8

9 PRINCIPLES OF TRAINING

- TRAIN AS COMBINED ARMS/SERVICE TEAMS*
- TRAIN AS YOU FIGHT*
- USE APPROPRIATE DOCTRINE*
- USE PERFORMANCE ORIENTED TRAINING*
- TRAIN TO CHALLENGE*
- TRAIN TO SUSTAIN PROFICIENCY*
- TRAIN USING MULTIECHELON TECHNIQUES*
- TRAIN TO MAINTAIN*
- MAKE CDRS THE PRIMARY TRAINERS*



MISSION ESSENTIAL TASK LIST

UNCONSTRAINED STATEMENT OF TASKS REQUIRED TO ACCOMPLISH WARTIME MISSION

- NOT PRIORITIZED OR CONSTRAINED BY RESOURCES
- MUST SUPPORT/COMPLIMENT HIGHER HQ METL
- MUST BE UNDERSTOOD BY CSM and KEY NCOs
- MUST APPLY TO THE ENTIRE UNIT
- APPROVED BY NEXT HIGHER CDR
- COMPANY IS LOWEST LEVEL TO HAVE METL
- ALL BATTLE STAFFS HAVE METLs

BATTLE TASKS

*THOSE COMPANY LEVEL
METL TASKS CRITICAL
TO THE SUCCESS OF THE
BATTALION METL*

TASK: A TASK
SHOULD INCLUDE:

- ☑ CONDITIONS
- ☑ STANDARDS
- ☑ SUBTASKS
- ☑ PERFORMANCE MEASURES
- ☑ FREQUENCY
- ☑ REFERENCES



*The AAR
is a professional
discussion that includes
the training participants and
focuses on the training
objectives and the METL*

AFTER ACTION REVIEWS

STEP 1: PLANNING PHASE

*Establish Objectives for AAR
Select qualified observers
Review the T&EO
Identify the AAR participants
Make potential site selections
Select training aids
Draft the AAR plan
Review the unit's training objectives*

THE AAR PLAN

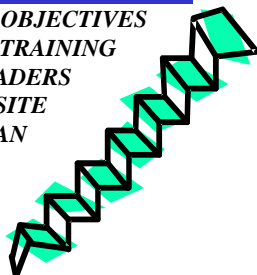
*Who will observe training?
Who will conduct AAR?
Who attends?
Where and when?
What training aids are needed?*

STEP 2: PREPARATION PHASE

*Review the training objectives, orders, and doctrine
Observe the training
Organize the selected AAR site
Collect information from other observers
Develop a discussion outline
Organize and rehearse*

10 STEP TRAINING MODEL

*SELECT TRAINING OBJECTIVES
PLAN TRAINING
TRAIN & VALIDATE LEADERS
VALIDATE TRAINING SITE
ISSUE PLAN
REHEARSE
EXECUTE
AAR
RETRAIN
RECOVER*



AFTER ACTION REVIEWS

*Soldiers learn
much more when they
identify for themselves what
went right and wrong,
rather than being told.*

STEP 3: EXECUTION PHASE

*Restate the unit's mission and objectives
Generate discussions
Orient on training objectives
Seek maximum participation
Continually summarize to emphasize
learning points*

DISCUSSION OUTLINE

Introduction

Agenda

AAR "Rules of Engagement"

Task, Condition, and Standards review

Focus Items

a. Why didn't we meet standards?

b. How can we fix the problems we observed?

Safety Assessment/Risk Update

Conclusion



*The process of identifying and controlling hazards to protect the force.
It is applicable to any mission and environment.*

RISK MANAGEMENT -vs- DECISION MAKING PROCESS

- | | | |
|--|---|--|
| Identify Hazards | → | 1. Receive the Mission
2. Gather Information
3. Complete Mission Analysis |
| Assess Hazards | → | 4. Complete Staff Estimates
5. Complete Commander's Estimate
a. Analysis of COAs |
| Develop Controls
& Make Risk
Decisions | → | b. Select Best COA
c. Develop Concept of Operation |
| Implement
Controls | → | 6. Prepare Plans & Orders
7. Approve Plans & Orders
8. Issue Plans & Orders |
| Supervise &
Evaluate | → | 9. Supervise |

RISK MANAGEMENT RULES

- **Integrate Risk Management into Planning**
- **Accept no Unnecessary Risk**
- **Make Risk Decisions at the Proper level**
- **Accept Risk only if Benefits outweigh Costs.**

FACTORS TO CONSIDER

(When Identifying Hazards)

- *Time for mission preparation and execution*
- *Terrain and Weather*
- *Transportation assets and maintenance issues*
- *Critical accident problem areas*
- *Long hours and probability of fatigue*
- *Physical condition/fitness of personnel*
- *Complexity of Tasks*
- *Skill level and Experience of personnel*
- *Personnel attitudes and motivation*
- *Water hazards (weak swimmers, water temp.)*
- *Road conditions and Convoy routes*
- *Condition of equipment*
- *Day operations-vs- Night operations*
- *Hazardous materials*
- *Level of Supervision (Direct or Indirect)*

KEY TERMS and DEFINITIONS

- **Hazard** - Any condition that can cause injury, illness, damage or death.
- **Risk** - Chance of hazard or bad consequences expressed by probability & severity.
- **Exposure** - Frequency and length of time subjected to hazard.
- **Probability** - The likelihood that an event will occur.
- **Severity** - The expected consequences in terms of degree of injury or damage.
- **Controls** - Actions taken to eliminate hazards or reduce their risk.
- **Risk Assessment** - The identification and assessment of hazards.
- **Residual Risk** - Level of risk remaining after implementing controls.
- **Risk Decision** - The decision to accept or not accept the risk.

Promotion Criteria

RANK	ACCELERATED	NORMAL
E-1 TO E-2	4-6 MONTHS TIS	6 MONTHS TIS
E-2 TO E-3	6-12 MONTHS TIS	12 MONTHS TIS 4 MONTHS TIG WAIVERABLE
E-3 TO E-4	12 MONTHS TIS 3 MONTHS TIG	26 MONTHS TIS 6 MONTHS TIG 3 MONTHS TIG WAIVERABLE
RANK	SECONDARY ZONE	PRIMARY ZONE
E-4 TO E-5	18 MONTHS TIS 8 MONTHS TIG 1/2 WAIVERABLE	36 MONTHS TIS 8 MONTHS TIG 1/2 WAIVERABLE
E-5 TO E-6	60 MONTHS TIS 10 MONTHS TIG 1/2 WAIVERABLE	84 MONTHS TIS 10 MONTHS TIG 1/2 WAIVERABLE

NOTE: IF A SOLDIER IS IN THE PRIMARY ZONE FOR CONSIDERATION FOR PROMOTION TO THE NEXT HIGHER GRADE, AND IS NOT GOING TO BE SELECTED/ APPEAR BEFORE THE PROMOTION BOARD, IT IS MANDATORY THAT THE SOLDIER BE COUNSELED ON THE REASON WHY HE IS NOT GETTING PROMOTED / APPEARING BEFORE THE BOARD. IT MUST INCLUDE POSSIBLE WAYS TO CORRECT THE PROBLEM, SO THAT THE SOLDIER CAN APPEAR AS SOON AS THE PROBLEMS ARE CORRECTED. ALL THIS MUST BE IN WRITING.

GENERAL REMARKS/ REGULATION CHANGES

ITEM	MAXIMUM POINTS
Duty Performance	150
Awards and Decorations	100
Military Education	200
Civilian Education	100
Military Training (APFT and Marksmanship)	100
Total Board Points	150
TOTAL PROMOTION POINTS	800

- a. Both field commanders and Department of the Army have a hand in promotions to SGT and SSG. The process begins with a recommendation by the soldier's unit commander, which is submitted through channels to the promotion authority who conducts the local promotion board. The unit commander's recommendation states that the soldier meets the promotion criteria established for promotion to the specific grade for which the soldier is competing. To recommend or not recommend a soldier for promotion is the responsibility of the unit commander.
- b. A soldier may only compete for promotion in his CPMOS, as outlined in DA PAM 611-21.
- c. Eligible CPLs/SPCs and SGTs compete Army-wide by a three character MOS, and their relative standing is determined by the points attained on a 800 point system for SSGs and SGTs.
- d. The minimum promotion point score for attaining recommended list status for promotion to SGT is 350. The minimum score for attaining recommended list status for promotion to SSG is 450.
- e. The service remaining requirement is six months for promotion to SGT and 12 months for promotion to SSG.
- f. Soldiers competing for promotion to SSG must be graduates of the Primary Leadership Development Course (PLDC) prior to being recommended for promotion. Effective 1 Oct 92, soldiers must be a graduate of BNCOC in order to be promoted to SSG. Effective 1 Oct 89, soldiers competing for promotion to SGT must be graduates of PLDC prior to being promoted.
- g. Soldiers competing for promotion to SGT/SSG must possess either a high school diploma, GED equivalency, or an associate or higher degree.
- h. Each month the Department of the Army establishes the total number of soldiers to be promoted based on budgetary and strength constraints. The number of promotions is allocated by PMOS within these constraints.
- i. Department of the Army promotion cutoff scores are announced monthly. Soldiers who meet or exceed the announced cutoff score are promoted if otherwise eligible.



MAINTENANCE



SECTION

Site Selection and Layout

1. Site Selection (Dependent on Tactical Situation)

- a. Centrally Located to Supported Units
- b. Suitable for Technical Operations
 - (1) Near Main Supply Route (MSR)
 - (2) Int/Ext Road Network (SPT HVY Traffic)
 - (3) Hardstand/ Buildings that can be used
 - (4) Will not flood in heavy rain
 - (5) Area Large Enough for Vehicle/ Equipment Dispersion
- c. Defendable (Base or Base Cluster)
 - (1) Provide Cover and Concealment
 - (2) Not on a Major Enemy Avenue of Approach

2. Layout

a. Selection	Location
(1) Company Headquarters	Central
(2) Maint Control Office (MCO)	At Main Entrance
(3) Inspection Point	At Main Entrance
(4) Supply Point	Near Main Entrance With Own Entr/Exit
(5) Auto/ Arm PLT	Hardstand, Parking Area
(6) Service/ Recovery Sec	Near A/A PLT With Own Entr/Exit
(7) Electronic Maintenance Sec	Dust Free Area
(8) Bottle Cleaning & Charging Unit	Diesel Fume Free Area

Site Selection and Layout

2. Layout (Continued)

b. Internal Layout Considerations

- (1) Posted One Way Internal Traffic Pattern
- (2) Road Guards on Entrance
- (3) Obstacle Plan
- (4) Route Non-Maintenance Traffic around Unit Area
- (5) Vehicle Dispersion
- (6) Parking Area for Vehicles Waiting Maintenance
- (7) Area for Vehicle Crews Waiting Maintenance Support
- (8) Reaction Force Rally Point
- (9) Fire Support, Minefield Plan
- (10) LP/Ops, Roving Patrol Plan
- (11) Crew Served Weapons Placement
- (12) Assign Perimeter Responsibility by Sec/ PLT
- (13) Engineer Support Requirements
- (14) Customer Equipment Camouflage Requirement
- (15) Sleep/ Work Areas and Internal Power Supply
- (16) NBC Protective Measures
- (17) Landing Zone Area
- (18) Power Generation Cable Layout
- (19) Escape Route and Rally Point

Maintenance Support Planning

1. Information Needed

- a. Tactical Environment
- b. Tentative Tactical Plan
- c. Facilities in Assigned Area
- d. Number, Type, and Location of Supported Equipment
- e. Repair Parts Availability
- f. Priority by Supported Units (Who)
- g. Priority by Type of Equipment (What)
- h. Air and ground Support
- i. Personnel Availability
- j. Training
- k. Statistical Data (Past History)
- l. Maintenance Time Guidelines
- m. Current Work Load
- n. Estimated Repair Time Required (By Work Load)
- o. Evacuation Priorities/ Procedures
- p. Intelligence/ Data Requirements
- q. Status/ Disposition of Crews waiting Maintenance

2. Computations Made (Scenario Independent)

- a. Location of NMC Equipment/ Pers/ Repair Parts/ Tools/ Lift
- b. Transportation and Repair Time vs. Tactical Situation
- c. Work Standards vs. Repair Time/ Mission Requirements
- d. Contaminated Equipment
 - (1) Repair vs. Weather
 - (2) Repair Hot vs. Time to Decontaminate

Maintenance Support Planning

2. Computations Made (Scenario Independent) (Continued)

- e. Repair vs. Evacuation
- f. Repair vs. Cannibalization
- g. Coordinate Maintenance and Tactical Plans
- h. Man-Hours Available vs. Required to Meet Mission

3. Controls Established

- a. Supply Distribution
- b. Maintenance Status Reporting
- c. Inspections and Quality Control Procedures
- d. Set Maintenance Time Guidelines
- e. Battlefield Damage Assessment and Repair
- f. Cannibalization Criteria
- g. Evacuation Criteria

4. Provisions for Specialized Services

- a. Recovery and Evacuation
- b. Disposition of Captured Enemy Equipment
- c. Technical Assistance
- d. Technical Intelligence
- e. Explosive Disposal
- f. Calibration
- g. Decontamination
- h. Battlefield Damage Assessment Teams

Maintenance Support Planning

5. Tactical Scenario

- a. Offense
 - (1) Multiple MCPs
 - (2) Leap Frog MCPs
 - (3) Equipment Rally Points
 - (4) Initial Forward Deployment
 - (5) Stock MST with Extra Class IX
 - (6) Shorten Maintenance Time Guidelines
 - (7) Hand Off NMC Equipment to Follow-on Units
 - (8) Use Air Transport to Move and Resupply MSTs
- b. Defense
 - (1) Consolidate Maintenance Elements
 - (2) Onsite Maintenance
 - (3) Longer Maintenance Time Guidelines
 - (4) Use Air Transport
- c. Retrograde
 - (1) Priority on Recovery and Evacuation
 - (2) Minimum Forward Maintenance
 - (3) Equipment Rally Points
 - (4) Implement BDAR
 - (5) Shorter Maintenance Time Guidelines

Maintenance Support Planning

6. NBC Operations/ Considerations

- a. Establish Contaminated Equipment Inspection Point Coordinates
- b. Mark Contaminated Equipments
 - (1) Type of Agent
 - (2) Time of Contamination
- c. Separate Contaminated Equipment
- d. Establish Contaminated Equipment MCP
- e. Establish Contaminated Equipment holding Area
- f. Repair Contaminated Equipment with Contaminated Tools
- g. Do Not Evacuate Contaminated Equipment
- h. Recover with Like Contaminated Equipment
- i. Decon Before Repair (Time Permitting)
- j. Continual Monitoring
- k. Disposition of Contaminated Components/ Repair Parts
- l. Rotate Repair Teams to Provide Necessary Rest

Ordnance Unit Road Movement Plan

1. Site Reconnaissance

2. Route Reconnaissance (Consider Alternate Route)
3. Advance Party Composition and Orders
4. Start Point (SP)
5. Start Time
6. Release Point (RP)
7. Rate of March
8. Load Plans
9. Unloading Plan
10. Location of Critical Supplies/ Crew Served Weapons
11. Halts
12. Refueling Points and Procedures
13. Feeding
14. Road Guards
15. Unit Maintenance Procedures and Location
16. Customer Support Procedures While Enroute
17. Visual Signals
18. Road Markers
19. Trail Party (Pick up Road Guards)
20. Convoy/ March Unit Composition
21. Vehicle/ March Unit Intervals
22. Actions upon Separation from Convoy
23. Actions upon Air Attack or Ambush

Maintenance Work Priorities List

1. Establish Security

2. Establish Defensive Perimeter
3. Get Vehicles/ Equipment under Cover
4. Sire Machine Guns and other Crew Served Weapons
5. Tie in with Adjacent Units
6. Establish Wire/ Commo Network
7. Dig/ Camouflage Fighting Positions
8. Designate Deployment Areas
9. Camouflage Vehicles/ Equipment
10. Set up Mission Critical Equipment
11. Prepare Range Cards
12. Selectively Clear Fields of Fire
13. Set up Heavy Mission Support Equipment
14. Improve Fighting Positions
15. Coordinate Rear Operations Requirements
16. Dig Protective Shelters for Soldiers not on the Perimeter
17. Set up Individual Tents and Equipment

RECOVERABILITY CODES

The recoverability code is a one position alphabetic code. This code will identify the level of maintenance which is allowed to turn-in an unserviceable item and requisition a replacement item when it can no longer be used.

CODE

Definition

A This code identifies items which require special procedures in disposal. Reasons for why this code is assigned include: precious metal content, high cost, material in short supply, or hazardous material.

D Reparable Item. Complete repair of this item can only be done at an Army depot. When a lower level of maintenance cannot repair this item, return it to the depot. Army depots are the only activities which can decide that this item should be disposed of.

F Reparable Item. Complete repair of this item can only be done by the direct support unit. When the organization cannot repair this item, return it to the direct support unit. The direct support unit and higher levels of maintenance can decide that this item should be disposed of.

H Reparable Item. Complete repair of this item can be done by the general support unit. When a lower level of maintenance cannot repair this item, return it to the general support unit. The general support unit and higher levels of maintenance can decide that this item should be disposed of.

L Reparable Item. Complete repair of this item can be done by the depot or specialized repair activity. When a lower level of maintenance cannot repair this item, return it to the depot or specialized repair activity. The depot or specialized repair activity can decide that this item should be disposed of.

O Reparable Item. Complete repair of this item can be done by the organization. The organization and higher levels of maintenance can decide that this item should be disposed of.

Z Non-reparable Item. Dispose of this item at the maintenance level authorized to replace it.

STOCKAGE LIST CODES

The stockage list code is a one or two position code. This code gives the reason why a repair part is in the Class IX account.

Q1 Demand supported item. Must have at least nine demands within the last 12 months to add to the ASL or at least three demands to retain.

Q3 Demand supported item. Denotes a reparable item which qualifies for SLC Q and is repaired at the DS maintenance activity and returned to the SSA for stock. Normally used to indicate an RX item.

P1 Stocked provisioning item. Non-demand supported items stocked to support newly fielded items of equipment for up to two years until stockage can be based on actual demand.

P3 Stocked provisioning item. Non-demand supported reparable items which qualify for SLC P and are repaired at the DS maintenance activity and returned to the SSA for stock. Normally used to indicate an RX item

M Stocked numeric. Non-demand supported items for which demands are expected, but not enough to meet demand supported criteria. Examples are MPL lines, seasonal items, and items for which the computed RO is less than the assigned RO.

F Other stocked. Used to identify ORF items.

Z Not stocked. NSL items for which demand data and inventory data are kept, if assets are on hand. No RO exists for these items and no replenishment is allowed. Stockage is not allowed and NSL items on hand as a result of turn in or receipts are processed for disposition as soon as possible.

PROCESS STATISTICS

PROCESS	OBJECTIVE	MANAGEMENT LEVEL	WHY IT IS IMPORTANT
ZERO BALANCE W/DUES-OUT	8%	8-10%	This will tell you how well you are stocking what your customers are asking for. Review your stockage level of this item at the next ASL review board - you may need to increase it.
DENIAL RATES	1%	0-3%	This could indicate that you have asset balance file problems. SARSS is issuing against stock it stays you have on the self, but when you get there, the location is empty. This will cause the line to be "frozen" until an inventory is conducted.
INVENTORY ACCURACY	95%	85%	This will support accurate ABF files and good inventory processes as well as reducing denial and excess. Inventory accuracy is a measure of how well you records indicate the location, condition codes, unit of
RECEIPT PROCESSING	3 DAYS	5 DAYS	This is the time frame from the time supplies arrived at the SSA to posting of receipts to the stock accounting record. This is a direct reflection of how well your receipt
REQUEST PROCESSING	2 DAYS	4 DAYS	This is the time frame from the time a customer's request was received by the SSA to the time the request was processed for issue or passed
LOCATION SURVEY	98%	95%	This will tell you how well your automated location records match the physical locations. Unlike inventory accuracy, no count is

PROCESS STATISTICS

PROCESS	OBJECTIVE	MGMNT LEVEL	WHY IT IS IMPORTANT
EXCESS CYCLE			
REP ARABLES	DAILY		Stocks on hand above the RO cost the Army money as well as increases your warehousing workload (location maintenance, inventory accuracy, etc). Make every effort to get rid of excess - somebody else may need the part you're hoarding!
OTHERS	MONTHLY		
DISPOSITION EXCESS INDICATOR	10 DAYS		You have 10 days to get rid of excess once its identified. If you aren't processing within 10 days look at your storing and shipping operations - there may be bottlenecks in your operations there.
AUTOMATED SYSTEMS CYCLES	1 PER WORKDAY	18 PER MONTH	Customer requests should be processed on a daily basis, as it affects their ability to do their missions. Although the goal is one per day, multiple cycles can be run, further enhancing your ability to support your customers. The final "close out" process must be run at least once per day. This will help maintain accurate ABF records at your location and keep the document history records at SARSS-2A as current as possible (reduces denials generated from referrals).
INVENTORY ADJUSTMENTS	ALL IARs (LESS ADMIN IARs) DO NOT EXCEED 2 1/2 % OF THE DOLLAR VALUE OF THE FY RO		Use this as an indicator of how well you are maintaining the Army's property. If your IARs exceed the limit review your warehousing operations - is the warehouse orderly, are the processes in logical locations, are you hindered by being understaffed or undertrained? Consult your support operations office for assistance if necessary.

MAINTENANCE MEETINGS

1. **Purpose.** Maintenance meetings are conducted to increase the customers readiness by ensuring the maintenance community is doing everything possible to fix equipment.

2. **Frequency.** Meetings should be conducted, as a minimum, weekly.

3. **Participants.** An effective maintenance meeting will include:

- Brigade S4.
- Support Operations Officer
- Support Operations Maintenance Officer.
- Shop Officer.
- Tech Supply Officer or other knowledgeable representative.
- DMMC representative.
- BMO/BMT and BMS from each customer unit.

NOTE: Depending on particular readiness problems or other concerns, battalion/task force XO's and the Bde XO should attend.

4. Support Battalion Responsibilities.

a. Support Operations Officer:

- Assists the Bde S4 in conducting the meeting.
 - Has a current copy of each customer unit's DA Form 2406/026.
 - Maintains focus of the meeting.
 - Ensures shop officer and TSO are prepared to brief their areas.
 - Ensures DMMC assists as necessary.
 - Keeps a non-adversarial tone to the meeting.
 - Designates responsibilities for actions identified during the meeting.
- #### b. Support Operations Maintenance Officer:
- Takes detailed minutes and notes for follow-up actions.
 - Assists the Support Operations Officer in preparation for the meeting.
 - Has a copy of the current SAMS-2 work order parts status listing with current job status and requisition status.

c. Shop Officer:

- Provides status of DS jobs.
- Provides SAMS-I customer reconciliations.
- Provides estimated completion dates for jobs in shop.
- Provides current status of requisitions for jobs awaiting parts.
- Provides status of MST manning as required.
- Provides current status of ORF.
- Provides a record of SAMS transaction disk turn in.

d. Tech Supply Officer:

- Provides updated status of customer requests as required.
- Provides customer DS4/SARSS reconciliation's as appropriate.
- Identifies critical repair parts, RX, and major assembly shortages.
- Provides records of ULLS Class IX diskette turn-ins by customer DODAAC.
- Provides necessary Class IX expertise to answer customer questions.

e. DMMC Representative:

- Provides maintenance and Class IX expertise as necessary.
- Initiates actions to cross level critical parts from other DSUs/PLLs as needed.
- Provides current status and availability of division ORF.
- Provides current status of customer requests from DS4 due-in/due-out reports.

MAINTENANCE MEETINGS (Continued)

5. Brigade Responsibilities.

a. Brigade S4:

- (1) Chairs the maintenance meeting.
- (2) Tracks status of reportable equipment and advises the brigade commander of current and projected status of equipment.
- (3) Provides technical supervision and assistance to the battalions/task forces of the BCT.

b. Battalion/Task Force BMO:

- (1) Provides a DA Form 2406 with the current status of the battalion's equipment to the Bde S4 and Support Operations Officer.
- (2) Provides the current status of the battalion's PLLs.
- (3) Coordinates the battalion's maintenance efforts following the maintenance meeting to ensure Bde S4 guidance is carried out.

6. Techniques for the Maintenance Meeting.

- a. Schedule a time and location each week. If at all possible, maintain the same place and time so a routine becomes established. "Floating" meetings don't work because not everyone gets the word.

- b. Take good notes and establish who has the responsibility for each action that is identified. At the next meeting, have the action officer report what has been accomplished.

- c. Have an agenda for running the meeting. Keep it moving without bogging down in unnecessary details.

- d. When reviewing unit 2406/026 reports, proceed line by line down the backside. Don't skip around.

- e. Expect people to come prepared to brief their respective areas.

- f. Don't let a unit leave after they have gone over their 2406. Often they can help out with parts or offer suggestions to other units.

- g. Don't get defensive or argumentative with the customers in public. Teamwork is essential in getting customers' equipment fixed. If you want to "jump" on a BMO for having your soldiers work all weekend on a tank and then not closing it out until Tuesday, wait until the meeting is over.

- h. Don't embarrass customers in front of the other units. It's unprofessional and not conducive to good customer relations.

MAINTENANCE AND CLASS IX OPERATIONS Reports

Operator/Crew	Company	BMO/T/S	BN TF S-4
By SOP/TM/Update Dead lines	By SOP/TM/Update Combat Power	By SOP/TM/Update Combat Power	By SOP/TM/Update Combat Power
5588E/2404	Verify 5588/2404	Verify/Validate Control 5588/2404	Oversee 5588/2404
PMCS	Update 2406	Prepare 2406	Verify 2406
Identify Faults	Monitor ULLS Comms with SAMS/SARSS	ULLS disk T/I SAMS/SARSS	Monitor ULLS Comms with SAMS/SARSS
	AOAP	Manage AOAP	Oversee AOAP
	ID Parts Needed	Critical Issues	Critical Issues
	Monitor PLL	Update -026	Use -026
	Request Parts	ULLS Database	BN Budget
		Location of UMCP	
		Locations of Active	
		MCPs	
		Location of Dirty MCP	
		Attends Maint. Meeting	
		Monitor 02 Parts Status	
		Perform Scheduled Services	
		Manage Parts & PLL Assets	
		Advise CDR of Trends	

MAINTENANCE AND CLASS IX OPERATIONS Reports

BN TF XO	BCT S-4	DS Maint Co. Shop Office	FSB SPO/ MATO
Develop Review and Enforce	By SOP/TM/Update	Maint Policies By SOP/Update	By SOP/TM/Update
Priorities	Reviews and Consolidates Reports	Receives data via Blast or Disk	Receives SAMS data
Reporting	Submits Required reports to G-4	SAMS-1 Disk to SPO	SAMS-2 Disk to DMMC
Adhere to SOP/TM/Update	Coordinates with FSB SPO	Critical Issues	Critical Issues
		ULLS Disk T/I	Combat Power
		Location of MSTs	Print and use -026
	Chairs Maintenance Meeting (Daily)	Attends Maintenance Meetings	Co-chairs Maint. Meetings
	Use AHN-026	Maint. Procedures	Maint. Trends
			Supply Category
			Management
			Expedites Class IX

MAINTENANCE AND CLASS IX OPERATIONS Recovery Operations

Operator/Crew	Company	Recovery Team	BMO/T/S
Self Recovery	Like Vehicle Recovery	Receive Mission:	Recovery Support Plan by Mission
Like Vehicle	Receive and Verify Report	~Type Vehicle	Develop Estimates/ID Assets
Report to Unit:	Prioritize:	~Bumper Number	Establish Procedures
~Vehicle	Request Recovery	~Situation	Receive Requests
~Location	Report to CDR	~Accurate Location/	Verify Locations
~Situation	Disposition of Ammo and Personnel	Route Security	Prioritize Missions
~Personnel		~Destination MCP	Issue Orders: See Recov. Tm Mission
Assit Recovery Team	Assist with Recovery	~Map w/checkpoints	
	Company Maint.	~Compass	Track Teams
	Team	~Obstacle Overlay	Execute Recovery
		~Callsigns/Freqs	Plan
		Priorities	~Track Battle
		~Alternate MCP	Coordinate for
			Disabled Vehicle

BN TF S-4	BN TF XO	BCT S-4	FSB SPO/ MATO
Verify Recovery Support Plan	Responsible for Plan:	Verify BN TF Plans	Plan Back Up
Integrate Plan into BN OPORD	~Completeness	Cross Level Assets	Provide Backup
Track Recovery Capability	~Integration	Track Capabilities	Assist BMO:
	~Synchronization	Request Back-up	~Expertise
Request Back-up	~Execution	Report to G-4	~Log Support
Report to BDE S-4			Planning

Logistician's Cheat Sheet

ADVICE CODES (Unit Request)

1C - Fill as requested, substitute or reject if item not available
1J - Fill as requested or reject if item not available
2A - Item is not available through manufacturer, fabrication or procurement
2B - Only requested item will suffice, do not substitute
2C - Do not backorder, reject unfilled quantity, suitable substitute acceptable
2D - Furnish exact quantity requested
2E - Free Issue
2F - Item is coded obsolete but still required for immediate use
2G - Multiple use
2H - Special textile requirements
2J - Do not substitute of backorder
2L - The amount shown exceeds normal demand, valid requirement
2T - Deliver to consignee by RDD, or cancel requirement

MODES OF SHIPMENT

A - Motor Transport
B - Motor (less than truckload)
G - Surface Parcel Post
H - Air Parcel Post
I - Government Truck
J - Small Package Carrier
Q - Air Freight/Express/Charter
R - Expedited Air Freight
S - Scheduled Truck Service
5 - United Parcel Service (UPS)
6 - Military Official Mail
7 - Express Mail

Logistician's Cheat Sheet

SUPPLY STATUS CODES

BA - Item processed for release
BB - Item back ordered against due in stock
BC - Item back ordered expect long ESD
BD - Request delayed - Need to verify Req's
BE - Depot/storage activity has a record of the MRO
BF - No record of Document Number
BG - One or more items are incorrect
BH - Substitute item will be supplied
BJ - Qty changed to conform to package
BK - Requisition data modified
BL - Notice of availability forwarded to country rep
BM - Document forwarded to activity
BN - Transaction is being processed as a free issue
BP - Requisition deferred per customer instructions
BQ - Cancelled by request (DSU)
BR - Cancelled by activity (Higher)
BS - Cancelled by activity
BT - Requisition received and processed for attempted
BV - Item procured by contract or direct consignee
BZ - Processed for direct delivery
B7 - Unit price changed
B9 - Cancellation
CA - Rejected
CB - Rejected, quantity not filled as required
CD - Rejected, errors in quantity
CE - Rejected, errors in unit of issue
CG - Rejected, unable to identify requested item
CH - Rejected, sent to incorrect manager
CJ - Rejected, item code obsolete or inactivated
CK - Rejected, item not available, (see DS4)
CL-CZ - Rejected
CS - Rejected, qty ordered is suspect to error
C1-C9 - Rejected
D2-D8 - Rejected
AOA - Routine request
AE1 - Status
AF1 - Follow-up
AC1 - Request for cancellation

Logistician's Cheat Sheet

<u>WORK REQUEST STATUS (TABLE B-21)</u>	<u>COMMON SUPPLY TERMS</u>
A - Awaiting Initial Inspection	ASA - Same as RFI
B - In Shop	ASL - Authorized Stockage List
C - Awaiting Shop	CRP - Central Receiving Point
D - Deferred	D6S - A receipt document
E - Awaiting Final Inspection	DFG - Dedicated Due-in/due-out
F - Final Inspection Complete	EDD - Estimated Delivery Date
G - Test flight, or maintenance operational check	ESD - Estimated Ship Date
H - Awaiting Disposition Instructions from Higher	ESTB - Requisition Established
I - Awaiting Shop While Awaiting non-NMC Parts	MIRP - Date a D6S has been processed
J - In Shop Awaiting NMCS Parts	MRO - Material Release Order
K - Awaiting Non-NMCS Parts	NICP - National Inventory Control Point
L - Evac NMCS	NRF - No Record Found
M - Evac NMCM	O/T - Requisition passed to higher source
N - Evac Depot	PLL - Prescribed Load List
O - Awaiting Evacuation	RFI - Released for Issue
P - NMC for Lack of Facilities/Tools/Test Equipment	SHPD - Shipped from Depot
Q - Awaiting ECOD Actions	SSAR - Supply Support Activity Receipt
R - Awaiting Pickup	
S - Work Complete, Customer Not Notified	<u>DEPOTS</u>
T - Closed, Completed by other Maintenance Activity	A35 - New Cumberland, PA
U - Picked-Up	AQ5 - Sharp, CA
V - Closed (Item Satisfied ORF Exchange)	B16 - CECOM
W - Work Request Closed (Uneconomically Repair)	B17 - St. Louis, MO
X - Work Request Closed (Didn't meet Acceptance)	B46 - Warrenton, VA
Y - Closed (Below Acceptance Standard)	BO7 - Rock Island, IL
Z - Work Order Cancelled	BA4 - Anniston, CA
1 - Awaiting Deadlining NMCS Parts	BK4 - Letterkenny, PA
6 - Re-Inspection (rework the job)	BL6 - Lexington, KY
7 - Awaiting Float Transaction	BP4 - Pueblo, CO
8 - Rework, return to Shop	BR4 - Texarkana, TX
9 - Begin Intransit Time	BS2 - Corpus Cristi, TX
	BS6 - Sacramento, CA
<u>LEVEL OF WORK CODES TABLE B-24)</u>	SA - Mechanicsburg, PA
O - Unit/AVUM	SC - Columbus, OH
F - Direct Support/AVIM	SM - Memphis, TN
H - General Support	SN - New Cumberland, PA
D - Depot	SR - Richmond, VA
K - Contractor	SU - Ogden, UT
L - Special Repair Activity	S9I - Dayton, OH

JULIAN DATE CALENDAR

(PERPETUAL)

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Day
1	1	32	60	91	121	152	182	213	244	274	305	335	1
2	2	33	61	92	122	153	183	214	245	275	306	336	2
3	3	34	62	93	123	154	184	215	246	276	307	337	3
4	4	35	63	94	124	155	185	216	247	277	308	338	4
5	5	36	64	95	125	156	186	217	248	278	309	339	5
6	6	37	65	96	126	157	187	218	249	279	310	340	6
7	7	38	66	97	127	158	188	219	250	280	311	341	7
8	8	39	67	98	128	159	189	220	251	281	312	342	8
9	9	40	68	99	129	160	190	221	252	282	313	343	9
10	10	41	69	100	130	161	191	222	253	283	314	344	10
11	11	42	70	101	131	162	192	223	254	284	315	345	11
12	12	43	71	102	132	163	193	224	255	285	316	346	12
13	13	44	72	103	133	164	194	225	256	286	317	347	13
14	14	45	73	104	134	165	195	226	257	287	318	348	14
15	15	46	74	105	135	166	196	227	258	288	319	349	15
16	16	47	75	106	136	167	197	228	259	289	320	350	16
17	17	48	76	107	137	168	198	229	260	290	321	351	17
18	18	49	77	108	138	169	199	230	261	291	322	352	18
19	19	50	78	109	139	170	200	231	262	292	323	353	19
20	20	51	79	110	140	171	201	232	263	293	324	354	20
21	21	52	80	111	141	172	202	233	264	294	325	355	21
22	22	53	81	112	142	173	203	234	265	295	326	356	22
23	23	54	82	113	143	174	204	235	266	296	327	357	23
24	24	55	83	114	144	175	205	236	267	297	328	358	24
25	25	56	84	115	145	176	206	237	268	298	329	359	25
26	26	57	85	116	146	177	207	238	269	299	330	360	26
27	27	58	86	117	147	178	208	239	270	300	331	361	27
28	28	59	87	118	148	179	209	240	271	301	332	362	28
29	29		88	119	149	180	210	241	272	302	333	363	29
30	30		89	120	150	181	211	242	273	303	334	364	30
31	31		90		151		212	243		304		365	31

(FOR LEAP YEARS ONLY!)

[illegible]



AMMUNITION



SECTION

COMPATIBILITY GROUPS (CGs)

Ammunition and explosives are assigned to one of 13 CGs as follows:

Group A - Bulk initiating explosives that have the necessary sensitivity to heat, friction, or percussion to make them suitable for use as initiating elements in an explosives train. Examples are wet lead azide, wet lead styphnate, wet mercury fulminate, wet tetracene, dry cyclonite (RDX), and dry pentaerythritol tetranitrate (PETN).

Group B - Detonators and similar initiating devices not containing two or more independent safety features. Items containing initiating explosives that are designed to initiate or continue the functioning of an explosives train. Examples are detonators, blasting caps, small arms primers, and fuzes.

Group C - Bulk propellants, propelling charges, and devices containing propellant with or without their means of ignition. Items that, upon initiation, will deflagrate, explode, or detonate. Examples are single-, double-, triple-base, and composite propellants, rocket motors (solid propellant), and ammunition with inert projectiles.

Group D - Black powder, high explosives (HE), and ammunition containing HE without its own means of initiation and without propelling charge, or a device containing an initiating explosives and containing two or more independent safety features. Ammunition and explosives that can be expected to explode or detonate when any given item or component thereof is initiated except for devices containing initiating explosives with independent safety features. Examples are bulk trinitrotoluene (TNT), Composition B, black powder, wet RDX or PETN, bombs, projectiles, cluster bomb units (CBUs), depth charges, and torpedo warheads.

Group E - Ammunition containing HE without its own means of initiation and with propelling charge (other than one containing a flammable or hypergolic liquid). Ammunition or devices containing HE and containing propelling charges. Examples are artillery ammunition, rockets, or guided missiles.

Group F - Ammunition containing HE with its own means of initiation and with propelling charge (other than one containing a flammable or hypergolic liquid) or without a propelling charge. Examples are grenades, sounding devices, and similar items having an in-line explosives train in the initiator.

COMPATIBILITY GROUPS (CGs)

Ammunition and explosives are assigned to one of 13 CGs as follows:

Group G - Fireworks, illuminating, incendiary, and smoke, including hexachloroethane (HC) or tear-producing munitions other than those munitions that are water activated or which contain white phosphorous (WP) or flammable liquid or gel. Ammunition that, upon functioning, results in an incendiary, illumination, lachrymatory, smoke, or sound effect. Examples are flares, signals, incendiary or illuminating ammunition, and other smoke- or tear-producing devices.

Group H - Ammunition containing both explosives and WP or other pyrophoric material. Ammunition in this group contains fillers which are spontaneously flammable when exposed to the atmosphere. Examples are WP, plasticized white phosphorous (PWP), or other ammunition containing pyrophoric material.

Group J - Ammunition containing both explosives and flammable liquids or gels. Ammunition in this group contains flammable liquids or gels other than those which are spontaneously flammable when exposed to water or the atmosphere. Examples are liquid- or gel-filled incendiary ammunition, fuel-air explosives (FAE) devices, flammable liquid-fueled missiles, and torpedoes.

Group K - Ammunition containing both explosives and toxic chemical agents. Ammunition in this group contains chemicals specifically designed for incapacitating effects more severe than lachrymation. Examples are artillery or mortar ammunition (fuzed or unfuzed), grenades, and rockets or bombs filled with a lethal or incapacitating chemical agent.

Group L - Ammunition not included in other compatibility groups. Ammunition having characteristics that do not permit storage with other types of ammunition, or kinds of explosives, or dissimilar ammunition of this group. Examples are water-activated devices, prepackaged hypergolic liquid-fueled rocket engines, certain FAE devices, triethyl aluminum (TEA), and damaged or suspect ammunition of any group. Types presenting similar hazards may be stored together but not mixed with other groups.

Group N - Ammunition containing only extremely insensitive detonating substances (EIDS). Examples are bombs and warheads.

Group S - Ammunition presenting no significant hazard. Ammunition so packaged or designed that any hazardous effects arising from accidental functioning are confined within the package unless the package has been degraded by fire, in which case all blast or projection effects are limited to the extent that they do not hinder firefighting significantly. Examples are thermal batteries, explosives switches or valves, and other ammunition items packaged to meet the criteria of this group.

ACRONYMS/ABBREVIATIONS

AA Antiaircraft

ACFT Aircraft

AD Auxiliary Detonating

ADAM Area Denial Artillery Munition

AGM Air to Ground Missile (Air-Launched Surface Attack Missile)

AIM Air Intercept Missile

ALT Altitude

AMMO Ammunition

AN Army/Navy

AP(-T) Armor-Piercing(-Tracer)

APC(-T) Armor-Piercing Capped(-Tracer)

APDS(-T) Armor-Piercing Discarding Sabot(-Tracer)

APERS Antipersonnel

APFSDS(-T) Armor-Piercing Fin-Stabilized Discarding Sabot(-Tracer)

APHEI Armor-Piercing High Explosive Incendiary

API(-T) Armor-Piercing Incendiary(-Tracer)

ARTY Artillery

AT Anti-Tank

ASSY Assembly

ATM Air Training Missile

ATWESS Antitank Weapons Effects Signature System

AUX Auxiliary

BBC Bromobenzylcyanide (Tear Agent)

BD Base Detonating

BE Base Ejection

BGM Multiple-Platform Surface Attack Missile

BL-P Blind Loaded - Plugged

BL-P/T Blind Loaded - Plugged Tracer

BL-T Blind Loaded - Tracer

BLK Black

BZ "None" (Incapacitating Agent)

CBU Cluster Bomb Unit

CCU Cartridge Unit

CG Phosgene (Choking Agent)

ACROYNYS/ABBREVIATIONS

CHG Charge
 CK Cyanogen Chloride (Blood Agent)
 CL Chlorine (Irritant)
 CLSTR Cluster
 CN Chloroacetophenone (Tear Agent)
 CNS CN in Chloropicrin Chloroform (Tear Agent)
 COMB Combination
 CP Concrete Piercing
 CR Dibenz-(b,f)-oxazepine (Riot Control)
 CRYPTO Cryptographic
 CS Cone Stabilized, or O-Chlorobenzamalonitrile (Tear Agent)
 CTG Cartridge
 CTN Carton
 DA Diphenylchloroarsine (Vomiting Agent)
 DC Diphenylcyanoarsine (Vomiting Agent)
 DEL Delay
 DEMO Demolition
 DET Detonating
 DET-TR Deteriorated Tracer
 DISP Dispenser
 DM Adamsite (Vomiting Agent)
 DOC Document
 DPICM Dual Purpose Improved Conventional Munition
 ELEC Electric
 EQUIP Equipment
 EXT Extended
 FAE Fuel Air Explosive
 FCDC Flexible Confined Detonating Cord
 FLEX Flexible
 FM Titanium Tetrachloride (Smoke)
 FMU Fuze Multiple Use
 FRAG Fragment
 FS Sulphur Trioxide Chlorosulphonic Acid Solution (Smoke)
 GB Green Bag, or Sarin (Nerve Agent)

ACROYNYS/ABBREVIATIONS

GEMSS Ground Emplaced Mine Scatterable System
 GM Guided Missile
 GP General Purpose
 GREN Grenade
 GRN Green
 GRND Ground
 GRPSTK Gripstock
 H Leinstein Mustard (Blister Agent)
 HAZCOM Hazard Communication
 HC Hexachloroethane Mixture (Smoke)
 HD Distilled Mustard (Blister Agent)
 HE High-Explosive
 HE-CVT High-Explosive - Controlled Variable Time
 HE-ET/PD High-Explosive - Electronic Time/Point Detonating
 HE-PD/D High-Explosive - Point Detonating/Delay
 HEAA High-Explosive Anti-Armor
 HEAT(-T) High-Explosive Anti-Tank(-Tracer)
 HEDP High-Explosive Dual-Purpose
 HEI(-T) High-Explosive Incendiary(-Tracer)
 HEI-T-SD High-Explosive Incendiary - Tracer - Self Destruct
 HEL Helicopter
 HELI Helicopter
 HEP High-Explosive Plastic
 HERA High-Explosive Rocket Assist
 HOW Howitzer
 HPT High Pressure Test
 HT Mustard-T Mixture (Blister Agent)
 HVAP(-T) High-Velocity Armor Piercing(-Tracer)
 ICM Improved Conventional Munition
 ILLUM Illumination
 IM Isobutyl Methacrylate with Oil (Incendiary)
 INC Incendiary
 IR Infrared
 JATO Jet Assisted Take Off

ACROYNYS/ABBREVIATIONS

JAU Jet Assist Unit
 KE Kinetic Energy
 L Lewisite (Blister Agent)
 LAU Launcher
 LAW Light Antitank Weapon
 LHF Left Hand Feed
 LNCHR Launcher
 LNKD Linked
 LPT Low Pressure Test
 LR Long Rifle
 LS Low Speed
 M2 Model 2
 MECH Mechanical
 MICLIC Mine Clearing Line Charge
 MIM Mobile Air-Intercept Missile
 MJU Munitions Countermeasures Unit
 MK Mark
 MM Millimeter
 MOD Modification
 MOPMS Modular Packed Mine System
 MP Multipurpose
 MPSD-T Multipurpose Self Distruct Tracer
 MPSM Multi-Purpose Submunition
 MRTR Mortar
 MT Mechanical Time
 MTF Mechanical Time Fuze
 MTL Metal
 MTPD Mechanical Time Point Detonating
 MTR Mortar, or Motor
 MTSQ Mechanical Time Superquick
 MXU Miscellaneous Unit
 NM Non Metallic
 NP Napalm (Incendiary)
 NP-3 Napalm
 OFF Offensive

ACROYNYS/ABBREVIATIONS

ORG Orange
 ORNG Orange
 PARA Parachute
 PD Point Detonating
 PDF Point Detonating Fuze
 PDM Pursuit Deterrent Munition
 PDSQ Point Detonating Super Quick
 PERC Percussion
 PERS Personnel
 PETN Pentaerythritol Tetranitrate
 PFPX Prefragmented Proximity
 PIBD Point Initiating Base Detonating
 POST Passive Optical Scan Technique
 PRAC Practice
 PROJ Projectile
 PT Magnesium Pyrotechnic Material (Incendiary Mixture)
 PWP Plasticized White Phosphorus (Incendiary and Smoke)
 RAAM-L Remote Anti-Armor Mine - Long Delay
 RAAM-S Remote Anti-Armor Mine - Short Delay
 RAP Rocket Assisted Projectile
 RB Red Bag
 RCKT Rocket
 RD Round
 RHF Right Hand Feed
 RMP Reprogrammable Micro Processor
 RP Red Phosphorus
 RR Railroad
 SADM Special Atomic Demolition Munitions
 S&A Safe and Arm
 SEC Second, or Section
 SCBA Self Contained Breathing Apparatus
 SMAW Shoulder-Launched Multipurpose Assault Weapon
 SMDC Shielded Mild Detonating Cord
 SMK Smoke
 SNGL Single

ACRONYMS/ABBREVIATIONS

SPAL Simulator, Projectile Airburst Liquid
SPEC Special
STD Standard
STL Steel
STRMR Streamer
SURF Surface
TEA Triethyl Aluminum (Spontaneously Flammable)
TH Thermite or Thermate (Incendiary)
TH1 Thermite
TH4 Thermate
TNT Trinitrotoluene
TORP Torpedo
TOW Tube-Launched, Optically-Tracked, Wire-Guided
TP(-T) Target Practice(-Tracer)
TPA Triethyl Aluminum Plasticized (Spontaneously Flammable)
TPDS(-T) Target Practice Discarding Sabot(-Tracer)
TR Tracer
TRNG Training
UGM Underwater Surface Attack Missile
UK United Kingdom
VIO Violet
VX "None" (Nerve Agent)
WB White Bag
WHD Warhead
WHT White
WP White Phosphorus (Incendiary and Smoke)
WRBND Wirebound
YLW Yellow

AMMUNITION CONDITION CODES

The following definitions have been extracted from DOD 5160.65-M. Definition wording is fairly uniform in all service publications. Amplifications of the definitions from the DOD 5160.65-M, AR 725-50 and SB 742-1 are included. For specific Air Force and Navy amplifications see T.O. 11A-1-10 and SPCCINST 8010.12D respectively.

CODE A - SERVICEABLE (ISSUABLE WITHOUT QUALIFICATION)

New, used, repaired, or reconditioned materiel which is serviceable and issuable to all customers without limitation or restriction. Includes materiel with more than 6 months shelf life remaining.

Amplifications: DOD - None.

AR - For Army, level of preservation and packaging is not a restriction for issue.

SB - Normal incidental requirements for additional packaging, packing, or marking, etc., that can be accomplished at time of issue (without additional resources or manpower or causing a delay) does not constitute a restriction.

CODE B - SERVICEABLE (ISSUABLE WITH QUALIFICATION)

New, used, repaired, or reconditioned materiel which is serviceable and issuable for its intended purpose but which is restricted from issue to specific units, activities, or geographical areas by reason of its limited usefulness or short service life expectancy. Includes materiel with 3 through 6 months shelf life remaining.

Amplifications:

DOD - Includes non-conforming materiel authorized by waiver or deviation which is ready for issue with limited or restricted conditions. Includes materiel of non-standard configuration or identification which is intended for non-standard test or training use only.

AR - For Army, the manager will not include the level of preservation and packaging as part of the restriction for issue. The item manager will preserve the limits of usefulness or criteria for determining short shelf life. This will be by specific commodity or by item for inclusion within this code.

SB - Normal incidental requirements for additional packaging, packing, or marking, etc., that can be accomplished at time of issue (without additional resources or manpower or causing a delay) does not constitute a restriction. Includes items restricted from or to specific missions.

AMMUNITION CONDITION CODES

CODE C - SERVICEABLE (PRIORITY ISSUE)

Items which are serviceable and issuable to selected customers, but which must be issued before Condition Codes A and B materiel to avoid loss as a usable asset. Includes materiel with less than 3 months shelf life remaining.

Amplifications: SB - None.

DOD - Includes materiel which can be shipped and used (formerly identified shippable/shootable). Application of Condition Code C is at the discretion of the owning service.

AR - For Army, this includes those items showing deterioration that are suitable for issue as directed by the commodity commands.

CODE D - SERVICEABLE (TEST/MODIFICATION)

Serviceable materiel which requires test, alteration, modification, technical data marking, conversion, or disassembly. This does not include items which must be inspected or tested immediately prior to issue.

Amplifications: SB - None.

DOD - For Navy owned assets, applies only to new materiel awaiting final acceptance.

AR - For Army, this includes items that require surveillance, laboratory analysis, functional testing, and technical evaluation by higher authority to verify serviceability.

CODE E - UNSERVICEABLE (LIMITED RESTORATION)

Materiel which involves only limited expense or effort to restore to serviceable condition and which is accomplished in the Storage Activity where the stock is located.

Amplifications:

DOD - Includes materiel requiring limited exterior maintenance or repair/replacement of packaging/pallets and marking to return to a serviceable condition. May be issued to support ammunition requisitions coded to indicate acceptability of useable Condition Code E stock.

AR - Limited expense or effort is that which is allowable for expenditure by the care and preservation activity under current policy.

SB - Minor maintenance is exterior to the round or munitions. Includes all repair of external surfaces and repair or replacement of packaging, packing, palletization, and marking.

AMMUNITION CONDITION CODES

CODE F - UNSERVICEABLE (REPARABLE)

Economically repairable materiel which requires repair, overhaul, or reconditioning; includes repairable items which are radioactively contaminated.

Amplifications:

DOD - Typically, materiel which requires major maintenance more complex than Condition Code E.

AR - Excludes repairable assets which are covered under contract warranty.

SB - Major maintenance usually requires replacement of end item components or modification.

CODE G - UNSERVICEABLE (INCOMPLETE)

Materiel requiring additional parts or components to complete the end item prior to issue.

Amplifications: DOD/AR/SB - None.

CODE H - UNSERVICEABLE (CONDEMNED)

Materiel which has been determined to be unserviceable and does not meet repair criteria; includes condemned items which are radioactively contaminated;

Type I shelf life materiel that has passed its expiration date; and Type II shelf life materiel that has passed its expiration date and cannot be extended.

(NOTE: Classify obsolete and excess materiel to its proper condition code before consigning it to the DRMO. Do not classify materiel in Condition Code H unless it is truly unserviceable and does not meet repair criteria.)

Amplifications:

DOD/SB - Includes materiel determined to be uneconomically repairable.

AR - For Army, the item must not contain any components or assemblies to be reclaimed. This includes ammunition, except serviceable surplus or obsolete ammunition authorized for demilitarization.

AMMUNITION CONDITION CODES

CODE J - SUSPENDED (IN STOCK)

Materiel in stock which has been suspended from issue (SB adds "and use") pending condition classification or analysis, where the true condition is not known. Includes shelf life Type II materiel that has reached its expiration date pending inspection, test, or restoration.

Amplifications:

DOD - Includes materiel pending serviceability determination as a result of malfunction investigations. Condition Code J may be assigned temporarily until the true condition code is determined. Includes Air Force materiel that is identified and held for future test or surveillance requirements, either destructive or non-destructive in nature. May contain formerly serviceable assets that became non-issuable by reason of being reserved

for test, or the shelf life or service life has expired.

AR - Also included are items that have been suspended from issue and use pending commodity command investigation or determination of serviceability and munition items that are being subjected to a malfunction investigation due to an unsafe or other defective condition. Unclassified (Condition Code K) returns are excluded.

SB - Includes Temporarily Suspended materiel pending serviceability determination. Army ammunition that has missed two scheduled periodic inspections is included.

CODE K - SUSPENDED (RETURNS)

Materiel returned from customers or users (AR adds "suspended from issue pending inspection") and awaiting condition classification.

Amplifications:

DOD - This materiel shall be properly classified within 45 days (extensions may be granted by the owning service).

AR/SB - Includes items that have been identified by stock number and name, but not examined for condition. These stocks will be inspected and properly classified as to condition according to allowable time standards. When more time is needed because of receipts in large quantities, lack of facilities, lack of personnel, or other circumstances, the accountable supply distribution activity may grant an extension.

AMMUNITION CONDITION CODES

CODE L - SUSPENDED (LITIGATION)

Materiel held pending litigation or negotiation with contractors or common carriers.

Amplifications: DOD/SB - None.

AR - For Army, this includes shipments with overages, defects, or other conditions that require negotiations or litigation with procurement sources or common carrier to determine responsibility or liability for correction. Assets held pending the results of a report of survey are also included. This code should not be used with misdirected shipments.

CODE M - SUSPENDED (IN WORK)

Materiel identified on inventory control records but which has been turned over to (AR adds "and accepted by") a (AR adds "Army or DOD") maintenance facility or contractor (AR adds "plant") for processing.

Amplifications: DOD/AR/SB - None.

CODE N - SUSPENDED (SUITABLE FOR EMERGENCY COMBAT USE ONLY)

Ammunition stocks suspended from issue except for emergency combat use.

Amplifications: DOD/AR/SB - None.

CODE P - UNSERVICEABLE (RECLAMATION)

Materiel determined to be unserviceable, uneconomically repairable as a result of physical inspection, teardown, or engineering decision. Item contains serviceable components or assemblies to be reclaimed.

Amplifications: AR/SB - None.

DOD - Assigned as directed by the owning Service.

CODE Q - SUSPENDED (QUALITY DEFICIENT EXHIBITS)

This code is for intra-Air Force use only. Quality deficient exhibits returned by customer/user as directed by the inventory manager due to technical deficiencies reported by Quality Deficiency Report. Exhibit requires technical or engineering analysis to determine cause of failure to perform in accordance with specifications.

Amplifications: DOD/AR - None. Definition not in SB.

AMMUNITION CONDITION CODES

CODE Q - SUSPENDED (QUALITY DEFICIENT EXHIBITS)

This code is for intra-Air Force use only. Quality deficient exhibits returned by customer/user as directed by the inventory manager due to technical deficiencies reported by Quality Deficiency Report. Exhibit requires technical or engineering analysis to determine cause of failure to perform in accordance with specifications.

Amplifications: DOD/AR - None. Definition not in SB.

CODE R - SUSPENDED (RECLAIMED ITEMS, AWAITING CONDITION DETERMINATION)

Assets turned in by reclamation activities which do not have the capability (e.g., skills, manpower, or test equipment) to determine the materiel condition. Actual condition shall be determined prior to induction into maintenance activities for repair/modification.

Amplifications: DOD/AR - None. Definition not in SB.

CODE S - UNSERVICEABLE (SCRAP)

Materiel that has no value except for its basic materiel content. No stock shall be recorded as on hand in Condition Code S. This code is used only on transactions involving shipments to DRMOs. Materiel shall not be transferred to Condition Code S prior to turn-in to DRMOs if materiel is recorded in Condition Code A through H at the time materiel is determined excess. Materiel identified by NSN shall not be identified by this condition code.

Amplifications: DOD/AR - None. Definition not in SB.

CODE W (AR definition) - UNSERVICEABLE (WARRANTED REPARABLE)

Materiel under contract warranty which requires repair, overhaul, reconditioning, or replacement. Includes reparable items that are radioactively contaminated.

Amplifications: AR - None. Definition not in DOD or SB.

HAZARD CLASS 1 IDENTIFICATION NUMBERS, PROPER SHIPPING NAMES and HD with CG extracted from 49 CFR

Proper Shipping Names are limited to those shown in bold Roman type (not italics). Proper Shipping Names may be used in the singular or plural and in either capital or lower case letters. Punctuation marks and words in italics are not part of the Proper Shipping Name, but may be used in addition to the Proper Shipping Name. The word "or" in italics indicates that terms in the sequence may be used as the Proper Shipping Name, as appropriate. Following this HC 1 UN listing is a HC 1 NA listing. A UN listing for the Non-Hazard Class 1 entries in this publication follows those lists.

UN PROPER SHIPPING NAME - HC/DIV with CG

0004 Ammonium picrate, dry or wetted with less than 10 percent water by mass- 1.1D

0005 Cartridges for weapons, with bursting charge - 1.1F

0006 Cartridges for weapons, with bursting charge - 1.1E

0007 Cartridges for weapons, with bursting charge - 1.2F

0009 Ammunition, Incendiary with or without burster, expelling charge, or propelling charge - 1.2G

0010 Ammunition, Incendiary with or without burster, expelling charge, or propelling charge - 1.3G

0012 Cartridges for weapons, inert projectile or Cartridges, small arms - 1.4S

0014 Cartridges for weapons, blank or Cartridges, small arms, blank - 1.4S

0015 Ammunition, smoke with or without burster, expelling charge or propelling charge - 1.2G

0016 Ammunition, smoke with or without burster, expelling charge or propelling charge - 1.3G

0018 Ammunition, tear-producing with burster, expelling charge or propelling charge - 1.2G

0019 Ammunition, tear-producing with burster, expelling charge or propelling charge - 1.3G

0020* Ammunition, toxic with burster, expelling charge, or propelling charge - 1.2K

0021* Ammunition, toxic with burster, expelling charge, or propelling charge - 1.3K

0027 Black powder or Gunpowder, granular or as a meal - 1.1D

0028 Black powder, compressed or Gunpowder, compressed or Black powder, in pellets or Gunpowder, in pellets - 1.1D

0029 Detonators, non-electric, for blasting - 1.1B

0030 Detonators, electric, for blasting - 1.1B

0033 Bombs, with bursting charge - 1.1F

0034 Bombs, with bursting charge - 1.1D

0035 Bombs, with bursting charge - 1.2D

0037 Bombs, photo-flash - 1.1F

HAZARD CLASS 1 IDENTIFICATION NUMBERS

0038 Bombs, photo-flash - 1.1D
0039 Bombs, photo-flash - 1.2G
0042 Boosters, without detonator - 1.1D
0043 Burstern, explosive - 1.1D
0044 Primers, cap type - 1.4S
0048 Charges, demolition - 1.1D
0049 Cartridges, flash - 1.1G
0050 Cartridges, flash - 1.3G
0054 Cartridges, signal - 1.3G
0055 Cases, cartridge, empty with primer - 1.4S
0056 Charges, depth - 1.1D
0059 Charges, shaped, commercial, without detonator - 1.1D
0060 Charges, supplementary explosive - 1.1D
0065 Cord, detonating, flexible - 1.1D
0066 Cord, igniter - 1.4G
0070 Cutters, cable, explosive - 1.4S
0072 Cyclotrimethylenetrinitramine, wetted or Cyclonite, wetted or Hexogen, wetted or RDX, wetted with not less than 15 percent water by mass - 1.1D
0073 Detonators for ammunition - 1.1B
0074 Diazodinitrophenol, wetted with not less than 40 percent water or mixture of alcohol and water, by mass - 1.1A
0075 Diethyleneglycol dinitrate, desensitized with not less than 25 percent non-volatile water-insoluble phlegmatizer, by mass - 1.1D
0076 Dinitrophenol, dry or wetted with less than 15 percent water, by mass - 1.1D
0077 Dinitrophenolates alkali metals, dry or wetted with less than 15 percent water, by mass - 1.3C
0078 Dinitroresorcinol, dry or wetted with less than 15 percent water, by mass- 1.1D
0079 Hexanitrodiphenylamine or Dipicrylamine or Hexyl - 1.1D
0081 Explosive, blasting, type A - 1.1D
0082 Explosive, blasting, type B - 1.1D
0083 Explosive, blasting, type C - 1.1D
0084 Explosive, blasting, type D - 1.1D
0092 Flares, surface - 1.3G
0093 Flares, aerial - 1.3G
0094 Flash powder - 1.1G

HAZARD CLASS 1 IDENTIFICATION NUMBERS

0099 Fracturing devices, explosive, without detonators for oil wells - 1.1D
0101 Fuse, instantaneous, non-detonating or Quickmatch - 1.3G
0102 Cord detonating or Fuse detonating metal clad - 1.2D
0103 Fuse, igniter tubular metal clad - 1.4G
0104 Cord, detonating, mild effect or Fuse, detonating, mild effect metal clad- 1.4D
0105 Fuse, safety - 1.4S
0106 Fuzes, detonating - 1.1B
0107 Fuzes, detonating - 1.2B
0110 Grenades, practice, hand or rifle - 1.4S
0113 Guanyl nitrosaminoguanilydene hydrazine, wetted with not less than 30 percent water, by mass -1.1A
0114 Guanyl nitrosaminoguanilyltetrazene, wetted or Tetrazene, wetted with not less than 30 percent water or mixture of alcohol and water, by mass - 1.1A
0118 Hexolite, or Hexotol dry or wetted with less than 15 percent water, by mass- 1.1D
0121 Igniters - 1.1G
0124 Jet perforating guns, charged oil well, without detonator - 1.1D
0129 Lead azide, wetted with not less than 20 percent water or mixture of alcohol and water, by mass -1.1A
0130 Lead styphnate, wetted or Lead trinitroresorcinat, wetted with not less than 20 percent water or mixture of alcohol and water, by mass - 1.1A
0131 Lighters, fuse - 1.4S
0132* Deflagrating metal salts of aromatic nitroderivatives, n.o.s. - 1.3C
0135 Mercury fulminate, wetted with not less than 20 percent water, or mixture of alcohol and water, by mass - 1.1A
0136 Mines with bursting charge - 1.1F
0137 Mines with bursting charge - 1.1D
0138 Mines with bursting charge - 1.2D
0143 Nitroglycerin, desensitized with not less than 40 percent non-volatile water insoluble phlegmatizer, by mass - 1.1D
0144 Nitroglycerin, solution in alcohol, with more than 1 percent but not more than 10 percent nitroglycerin - 1.1D
0146 Nitrostarch, dry or wetted with less than 20 percent water, by mass - 1.1D
0147 Nitro urea - 1.1D
0150 Pentaerythrite tetranitrate, wetted or Pentaerythritol tetranitrate, wetted, or PETN, wetted with not less than 25 percent water, by mass, or Pentaerythrite tetranitrate, or Pentaerythritol tetranitrate, or PETN, desensitized with not less than 15 percent phlegmatizer by mass - 1.1D

HAZARD CLASS 1 IDENTIFICATION NUMBERS

0151 Pentolite, dry or wetted with less than 15 percent water, by mass - 1.1D

0153 Trinitroaniline or Picramide - 1.1D

0154 Trinitrophenol or Picric acid, dry or wetted with less than 30 percent water, by mass - 1.1D

0155 Trinitrochlorobenzene or Picryl chloride - 1.1D

0158 Potassium salts of aromatic nitro-derivatives, explosive - 1.3C

0159 Powder cake, wetted or Powder paste, wetted with not less than 25 percent water, by mass - 1.3C

0160 Powder, smokeless - 1.1C

0161 Powder, smokeless - 1.3C

0167 Projectiles, with bursting charge - 1.1F

0168 Projectiles, with bursting charge - 1.1D

0169 Projectiles, with bursting charge - 1.2D

0171 Ammunition, illuminating with or without burster, expelling charge or propelling charge - 1.2G

0173 Release devices, explosive - 1.4S

0174 Rivets, explosive - 1.4S

0180 Rockets, with bursting charge - 1.1F

0181 Rockets, with bursting charge - 1.1E

0182 Rockets, with bursting charge - 1.2E

0183 Rockets, with inert head - 1.3C

0186 Rocket motors - 1.3C

0190* Samples, explosive, other than initiating explosives - None Listed

0191 Signal devices, hand - 1.4G

0192 Signals, railway track, explosive - 1.1G

0193 Signals, railway track, explosive - 1.4S

0194 Signals, distress, ship - 1.1G

0195 Signals, distress, ship - 1.3G

0196 Signals, smoke - 1.1G

0197 Signals, smoke - 1.4G

0203* Sodium salts of aromatic nitro-derivatives, n.o.s. explosive - 1.3C

0204 Sounding devices, explosive - 1.2F

0207 Tetranitroaniline - 1.1D

0208 Trinitrophenylmethylnitramine or Tetryl - 1.1D

0209 Trinitrotoluene or TNT, dry or wetted with less than 30% water, by mass- 1.1D

HAZARD CLASS 1 IDENTIFICATION NUMBERS

0213 Trinitroanisole - 1.1D

0214 Trinitrobenzene, dry or wetted with less than 30 percent water, by mass- 1.1D

0215 Trinitrobenzoic acid, dry or wetted with less than 30 percent water, by mass- 1.1D

0216 Trinitro-meta-cresol - 1.1D

0217 Trinitronaphthalene - 1.1D

0218 Trinitrophenetole - 1.1D

0219 Trinitroresorcinol or Styphnic acid, dry or wetted with less than 20 percent water, or mixture of alcohol and water, by mass - 1.1D

0220 Urea nitrate, dry or wetted with less than 20 percent water, by mass - 1.1D

0221 Warheads, torpedo with bursting charge - 1.1D

0222 Ammonium nitrate, with more than 0.2 percent combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance - 1.1D

0224 Barium azide, dry or wetted with less than 50 percent water, by mass - 1.1A

0225 Boosters with detonator - 1.1B

0226 Cyclotetramethylenetetranitramine, wetted or HMX, wetted or Octogen, wetted with not less than 15 percent water, by mass - 1.1D

0234 Sodium dinitro-o-cresolate, dry or wetted with less than 15 percent water, by mass - 1.3C

0235 Sodium picramate, dry or wetted with less than 20 percent water, by mass- 1.3C

0236 Zirconium picramate, dry or wetted with less than 20 percent water, by mass- 1.3C

0237 Charges, shaped, flexible, linear - 1.4D

0238 Rockets, line-throwing - 1.2G

0240 Rockets, line-throwing - 1.3G

0241 Explosive, blasting, type E - 1.1D

0242 Charges, propelling, for cannon - 1.3C

0243 Ammunition, incendiary, white phosphorus, with burster, expelling charge or propelling charge - 1.2H

0244 Ammunition, incendiary, white phosphorus, with burster, expelling charge or propelling charge - 1.3H

0245 Ammunition, smoke, white phosphorus with burster, expelling charge, or propelling charge - 1.2H

0246 Ammunition, smoke, white phosphorus with burster, expelling charge, or propelling charge - 1.3H

0247 Ammunition, incendiary liquid or gel, with burster, expelling charge or propelling charge - 1.3J

0248* Contrivances, water-activated, with burster, expelling charge or propelling charge - 1.2L

HAZARD CLASS 1 IDENTIFICATION NUMBERS

0249* Contrivances, water-activated, with burster, expelling charge or propelling charge - 1.3L

0250 Rocket motors with hypergolic liquids with or without an expelling charge- 1.3L

0254 Ammunition, illuminating with or without burster, expelling charge or propelling charge - 1.3G

0255 Detonators, electric, for blasting - 1.4B

0257 Fuzes, detonating - 1.4B

0266 Octolite or Octol, dry or wetted with less than 15 percent water, by mass- 1.1D

0267 Detonators, non-electric, for blasting - 1.4B

0268 Boosters with detonator - 1.2B

0271* Charges, propelling - 1.1C

0272* Charges, propelling - 1.3C

0275 Cartridges, power device - 1.3C

0276 Cartridges, power device - 1.4C

0277 Cartridges, oil well - 1.3C

0278 Cartridges, oil well - 1.4C

0279 Charges, propelling, for cannon - 1.1C

0280 Rocket motors - 1.1C

0281 Rocket motors - 1.2C

0282 Nitroguanidine or Picrite, dry or wetted with less than 20 percent water, by mass - 1.1D

0283 Boosters, without detonator - 1.2D

0284 Grenades, hand or rifle, with bursting charge - 1.1D

0285 Grenades, hand or rifle, with bursting charge - 1.2D

0286 Warheads, rocket with bursting charge - 1.1D

0287 Warheads, rocket with bursting charge - 1.2D

0288 Charges, shaped, flexible, linear - 1.1D

0289 Cord, detonating, flexible - 1.4D

0290 Cord, detonating or Fuse, detonating metal clad - 1.1D

0291 Bombs, with bursting charge - 1.2F

0292 Grenades, hand or rifle, with bursting charge - 1.1F

0293 Grenades, hand or rifle, with bursting charge - 1.2F

0294 Mines with bursting charge - 1.2F

0295 Rockets, with bursting charge - 1.2F

0296 Sounding devices, explosive - 1.1F

HAZARD CLASS 1 IDENTIFICATION NUMBERS

0297 Ammunition, illuminating with or without burster, expelling charge or propelling charge - 1.4G

0299 Bombs, photo-flash - 1.3G

0300 Ammunition, incendiary with or without burster, expelling charge or propelling charge - 1.4G

0301 Ammunition, tear-producing with burster, expelling charge or propelling charge - 1.4G

0303 Ammunition, smoke with or without burster, expelling charge or propelling charge - 1.4G

0305 Flash powder - 1.3G

0306 Tracers for ammunition - 1.4G

0312 Cartridges, signal - 1.4G

0313 Signals, smoke - 1.2G

0314 Igniters - 1.2G

0315 Igniters - 1.3G

0316 Fuzes, igniting - 1.3G

0317 Fuzes, igniting - 1.4G

0318 Grenades, practice, hand or rifle - 1.3G

0319 Primers, tubular - 1.3G

0320 Primers, tubular - 1.4G

0321 Cartridges for weapons, with bursting charge - 1.2E

0322 Rocket motors with hypergolic liquids with or without an expelling charge- 1.2L

0323 Cartridges, power device - 1.4S

0324 Projectiles, with bursting charge - 1.2F

0325 Igniters - 1.4G

0326 Cartridges for weapons, blank - 1.1C

0327 Cartridges for weapons, blank or Cartridges, small arms, blank - 1.3C

0328 Cartridges for weapons, inert projectile - 1.2C

0329 Torpedoes with bursting charge - 1.1E

0330 Torpedoes with bursting charge - 1.1F

0331 Explosive, blasting, type B or Agent blasting, Type B - 1.5D

0332 Explosive, blasting, type E or Agent blasting, Type E - 1.5D

0333 Fireworks - 1.1G

0334 Fireworks - 1.2G

0335 Fireworks - 1.3G

HAZARD CLASS 1 IDENTIFICATION NUMBERS

0335 Fireworks - 1.3G
0336 Fireworks - 1.4G
0337 Fireworks - 1.4S
0338 Cartridges for weapons, blank or Cartridges, small arms, blank - 1.4C
0339 Cartridges for weapons, inert projectile or Cartridges, small arms - 1.4C
0340 Nitrocellulose, dry or wetted with less than 25 percent water (or alcohol), by mass - 1.1D
0341 Nitrocellulose, unmodified or plasticized with less than 18 percent plasticizing substance, by mass - 1.1D
0342 Nitrocellulose, wetted with not less than 25 percent alcohol, by mass - 1.3C
0343 Nitrocellulose, plasticized with not less than 18 percent plasticizing substance, by mass - 1.3C
0344 Projectiles, with bursting charge - 1.4D
0345 Projectiles, inert with tracer - 1.4S
0346 Projectiles, with burster or expelling charge - 1.2D
0347 Projectiles, with burster or expelling charge - 1.4D
0348 Cartridges for weapons, with bursting charge - 1.4F
0349* Articles, explosive, n.o.s. - 1.4S
0350* Articles, explosive, n.o.s. - 1.4B
0351* Articles, explosive, n.o.s. - 1.4C
0352* Articles, explosive, n.o.s. - 1.4D
0353* Articles, explosive, n.o.s. - 1.4G
0354* Articles, explosive, n.o.s. - 1.1L
0355* Articles, explosive, n.o.s. - 1.2L
0356* Articles, explosive, n.o.s. - 1.3L
0357* Substances, explosive, n.o.s. - 1.1L
0358* Substances, explosive, n.o.s. - 1.2L
0359* Substances, explosive, n.o.s. - 1.3L
0360 Detonator assemblies, non-electric, for blasting - 1.1B
0361 Detonator assemblies, non-electric, for blasting - 1.4B
0362 Ammunition, practice - 1.4G
0363 Ammunition, proof - 1.4G
0364 Detonators for ammunition - 1.2B
0365 Detonators for ammunition - 1.4B
0366 Detonators for ammunition - 1.4S

HAZARD CLASS 1 IDENTIFICATION NUMBERS

0367 Fuzes, detonating - 1.4S
0368 Fuzes, igniting - 1.4S
0369 Warheads, rocket with bursting charge - 1.1F
0370 Warheads, rocket with burster or expelling charge - 1.4D
0371 Warheads, rocket with burster or expelling charge - 1.4F
0372 Grenades, practice, hand or rifle - 1.2G
0373 Signal devices, hand - 1.4S
0374 Sounding devices, explosive - 1.1D
0375 Sounding devices, explosive - 1.2D
0376 Primers, tubular - 1.4S
0377 Primers, cap type - 1.1B
0378 Primers, cap type - 1.4B
0379 Cases, cartridges, empty with primer - 1.4C
0380 Articles, pyrophoric - 1.2L
0381 Cartridges, power device - 1.2C
0382* Components, explosive train, n.o.s. - 1.2B
0383* Components, explosive train, n.o.s. - 1.4B
0384* Components, explosive train, n.o.s. - 1.4S
0385 5-Nitrobenzotriazol - 1.1D
0386 Trinitrobenzenesulfonic acid - 1.1D
0387 Trinitrofluorenone - 1.1D
0388 Trinitrotoluene and Trinitrobenzene mixtures or TNT and trinitrobenzene mixtures or TNT and hexanitrostilbene mixtures or Trinitrotoluene and hexanitrostilbene mixtures - 1.1D
0389 Trinitrotoluene mixtures containing Trinitrobenzene and Hexanitrostilbene or TNT mixtures containing trinitrobenzene and hexanitrostilbene - 1.1D
0390 Tritonal - 1.1D
0391 RDX and HMX mixtures, wetted with not less than 15 percent water by mass or RDX and HMX mixtures, desensitized with not less than 10 percent phlegmatizer by mass - 1.1D
0392 Hexanitrostilbene - 1.1D
0393 Hexotonal - 1.1D
0394 Trinitroresorcinol, wetted or Styphnic acid, wetted with not less than 20 percent water, or mixture of alcohol and water by mass - 1.1D
0395 Rocket motors, liquid fueled - 1.2J
0396 Rocket motors, liquid fueled - 1.3J

HAZARD CLASS 1 IDENTIFICATION NUMBERS

0397 Rockets, liquid fueled with bursting charge - 1.1J
0398 Rockets, liquid fueled with bursting charge - 1.2J
0399 Bombs with flammable liquid, with bursting charge - 1.1J
0400 Bombs with flammable liquid, with bursting charge - 1.2J
0401 Dipicryl sulfide, dry or wetted with less than 10 percent water, by mass - 1.1D
0402 Ammonium perchlorate - 1.1D
0403 Flares, aerial - 1.4G
0404 Flares, aerial - 1.4S
0405 Cartridges, signal - 1.4S
0406 Dinitrosobenzene - 1.3C
0407 Tetrazol-1-acetic acid - 1.4C
0408 Fuzes, detonating, with protective features - 1.1D
0409 Fuzes, detonating, with protective features - 1.2D
0410 Fuzes, detonating, with protective features - 1.4D
0411 Pentaerythrite tetranitrate or Pentaerythritol tetranitrate or PETN, with not less than 7 percent wax by mass - 1.1D
0412 Cartridges for weapons, with bursting charge - 1.4E
0413 Cartridges for weapons, blank - 1.2C
0414 Charges, propelling, for cannon - 1.2C
0415* Charges, propelling - 1.2C
0417 Cartridges for weapons, inert projectile or Cartridges, small arms - 1.3C
0418 Flares, surface - 1.1G
0419 Flares, surface - 1.2G
0420 Flares, aerial - 1.1G
0421 Flares, aerial - 1.2G
0424 Projectiles, inert, with tracer - 1.3G
0425 Projectiles, inert, with tracer - 1.4G
0426 Projectiles, with burster or expelling charge - 1.2F
0427 Projectiles, with burster or expelling charge - 1.4F
0428 Articles, pyrotechnic for technical purposes - 1.1G
0429 Articles, pyrotechnic for technical purposes - 1.2G
0430 Articles, pyrotechnic for technical purposes - 1.3G
0431 Articles, pyrotechnic for technical purposes - 1.4G
0432 Articles, pyrotechnic for technical purposes - 1.4S

HAZARD CLASS 1 IDENTIFICATION NUMBERS

0433 Powder cake, wetted or Powder paste, wetted with not less than 17 percent alcohol by mass - 1.1C
0434 Projectiles, with burster or expelling charge - 1.2G
0435 Projectiles, with burster or expelling charge - 1.4G
0436 Rockets, with expelling charge - 1.2C
0437 Rockets, with expelling charge - 1.3C
0438 Rockets, with expelling charge - 1.4C
0439 Charges, shaped, commercial without detonator - 1.2D
0440 Charges, shaped, commercial without detonator - 1.4D
0441 Charges, shaped, commercial without detonator - 1.4S
0442 Charges, explosive, commercial without detonator - 1.1D
0443 Charges, explosive, commercial without detonator - 1.2D
0444 Charges, explosive, commercial without detonator - 1.4D
0445 Charges, explosive, commercial without detonator - 1.4S
0446 Cases, combustible, empty, without primer - 1.4C
0447 Cases, combustible, empty, without primer - 1.3C
0448 5-Mercaptotetrazol-1-acetic acid - 1.4C
0449 Torpedoes, liquid fueled, with or without bursting charge - 1.1J
0450 Torpedoes, liquid fueled, with inert head - 1.3J
0451 Torpedoes with bursting charge - 1.1D
0452 Grenades, practice, hand or rifle - 1.4G
0453 Rockets, line-throwing - 1.4G
0454 Igniters - 1.4S
0455 Detonators, non-electric for blasting - 1.4S
0456 Detonators, electric for blasting - 1.4S
0457 Charges, bursting, plastics bonded - 1.1D
0458 Charges, bursting, plastics bonded - 1.2D
0459 Charges, bursting, plastics bonded - 1.4D
0460 Charges, bursting, plastics bonded - 1.4S
0461* Components, explosive train, n.o.s. - 1.1B
0462* Articles, explosive, n.o.s. - 1.1C
0463* Articles, explosive, n.o.s. - 1.1D
0464* Articles, explosive, n.o.s. - 1.1E
0465* Articles, explosive, n.o.s. - 1.1F

HAZARD CLASS 1 IDENTIFICATION NUMBERS

0466* Articles, explosive, n.o.s. - 1.2C
0467* Articles, explosive, n.o.s. - 1.2D
0468* Articles, explosive, n.o.s. - 1.2E
0469* Articles, explosive, n.o.s. - 1.2F
0470* Articles, explosive, n.o.s. - 1.3C
0471* Articles, explosive, n.o.s. - 1.4E
0472* Articles, explosive, n.o.s. - 1.4F
0473* Substances, explosive, n.o.s. - 1.1A
0474* Substances, explosive, n.o.s. - 1.1C
0475* Substances, explosive, n.o.s. - 1.1D
0476* Substances, explosive, n.o.s. - 1.1G
0477* Substances, explosive, n.o.s. - 1.3C
0478* Substances, explosive, n.o.s. - 1.3G
0479* Substances, explosive, n.o.s. - 1.4C
0480* Substances, explosive, n.o.s. - 1.4D
0481* Substances, explosive, n.o.s. - 1.4S
0482* Substances, explosive, very insensitive, n.o.s., or Substances, EVI, n.o.s.- 1.5D
0483 Cyclotrimethylenetrinitramine, desensitized or Cyclonite, desensitized or Hexogen, desensitized or RDX, desensitized - 1.1D
0484 Cyclotetramethylenetetranitramine, desensitized or Octogen, desensitized or HMX, desensitized - 1.1D
0485* Substances, explosive, n.o.s. - 1.4G
0486 Articles, explosive, extremely insensitive or Articles, EEI - 1.6N
0487 Signals, smoke - 1.3G
0488 Ammunition, practice - 1.3G
0489 Dinitroglycoluril or Dingu - 1.1D
0490 Nitrotriazolone or NTO - 1.1D
0491* Charges, propelling - 1.4C
0492 Signals, railway track, explosive - 1.3G
0493 Signals, railway track, explosive - 1.4G
0494 Jet perforating guns, charged, oil well, without detonator - 1.4D
0495* Propellant, liquid - 1.3C
0496 Octonal - 1.1D
0497* Propellant, liquid - 1.1C
0498* Propellant, solid - 1.1C

HAZARD CLASS 1 IDENTIFICATION NUMBERS

0499* Propellant, solid - 1.3C

0500 Detonator assemblies, non-electric, for blasting - 1.4S

* An asterisk appearing after the UN Serial Number identifies hazardous material PSNs that, unless otherwise excepted, have one or more technical names which must be entered in parenthesis, on documentation and package marking, in association with the basic description.

The following is a list of Hazard Class 1 NA Identification Numbers, Proper Shipping Names and HD with CG. These PSNs are appropriate for describing materials for domestic transportation but may be inappropriate for international transportation under the provisions of international regulations (e.g., IMO, ICAO). An alternate PSN may be selected when either domestic or international transportation is involved.

NA PROPER SHIPPING NAME - HD with CG

0124 Jet perforating guns, charged oil well, with detonator - 1.1D

0276 Model rocket motor - 1.4C

0323 Model rocket motor - 1.4S

0331 Ammonium nitrate-fuel oil mixture containing only prilled ammonium nitrate and fuel oil - 1.5D

0337 Toy Caps - 1.4S

0349 Grenades, empty primed - 1.4S

0412 Explosive pest control devices - 1.4E

0473 Barium styphnate- 1.1A

0473 Lead mononitroresorcinate - 1.1A

0494 Jet perforating guns, charged oil well, with detonator - 1.4D

* An asterisk appearing after the NA Serial Number identifies hazardous material PSNs that, unless otherwise excepted, have one or more technical names which must be entered in parentheses on documentation and package marking in association with the basic description.

The following is a list of Non-Hazard Class 1 UN Identification Numbers, Proper Shipping Names and HD for entries in this publication and associated components.

UN PROPER SHIPPING NAME - HD

1046 Helium, compressed - 2.2

1066 Nitrogen, compressed - 2.2

1067 Dinitrogen tetroxide - 2.3

1072 Oxygen, compressed - 2.2

1078* Refrigerent gases, n.o.s. -2.2

1244 Methylhydrazine - 6.1

1325* Flammable solids, organic, n.o.s. - 4.1

1360 Calcium phosphide - 4.3

HAZARD CLASS 1 IDENTIFICATION NUMBERS

1381 Phosphorus, white dry or Phosphorus, white, under water or Phosphorus, white, in solution or Phosphorus, yellow dry or Phosphorus, yellow, under water or Phosphorus, yellow, in solution - 4.2

1495 Sodium chlorate - 5.1

1693* Tear gas substances, liquid, n.o.s. or Tear gas substances, solid, n.o.s. - 6.1

1697 Chloroacetophenone (CN), liquid - 6.1

1697 Chloroacetophenone (CN), solid - 6.1

1814 Potassium hydroxide, solution - 8

1950 Aerosols, flammable, (each not exceeding 1 L capacity) - 2.1

1993* Flammable liquids, n.o.s. - 3.

2016* Ammunition, toxic, nonexplosive, without burster or expelling charge, non-fuzed - 6.1

2017 Ammunition, tear-producing, non-explosive, without burster or expelling charge, non-fuzed - 6.1

2794 Batteries, wet, filled with acid, electric storage - 8

2795 Batteries, wet, filled with alkali, electric storage - 8

2796 Battery fluid, acid - 8

2797 Battery fluid, alkali - 8

2805 Lithium hydride, fused solid - 4.3

2983 Ethylene oxide and propylene oxide mixtures, with not more than 30 percent ethylene oxide - 3

3090 Lithium battery - 9

* An asterisk appearing after the UN Serial Number identifies hazardous PSNs that, unless otherwise excepted, have one or more technical names which must be entered in parentheses on documentation and package marking in association with the basic description.